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THE UNIVERSITY OF ALBERTA

A HISTORY OF VOCATIONAL EDUCATION

IN THE CALGARY PUBLIC SCHOOL SYSTEM

1900 - 1982

by



James Boyd Clarke

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
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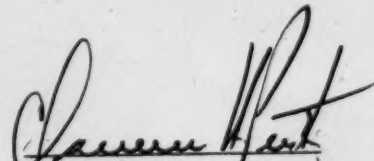
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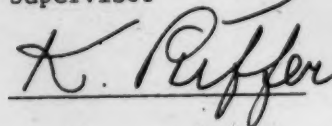
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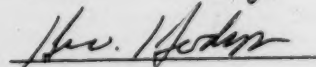
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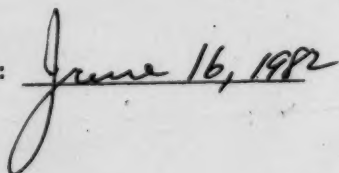
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ABSTRACT

This study was undertaken to examine the historical development of technical and vocational education within the secondary public schools of Calgary from the time of inception of this type of education up to the present, 1982. Although education was deemed to primarily be a provincial jurisdictional matter, it became readily apparent that the effects of federal contributions to education were substantial. A section of the study was devoted to this aspect of influence.

Several facets had to be included in the study that created influences of their own which changed the direction that vocational education was to take. For instance, the objectives of this type of education changed over the years, primarily since 1962. The emergence of vocational education in Calgary's public secondary schools as a major component of total education has been a slow evolutionary process which has had a major influence on a number of high school graduates from within the Calgary Public System. It has taken an extensive period of time to achieve this result and there have been times when it became questionable whether vocational education would survive.

It appeared that most parents wanted vocational education for other children but not for their own. On occasion, it became a political football for campaigning trustees and was subjected to change in form via curriculum revisions at the provincial level.

The major influence that indicated technical-vocational education was in a viable form came with the passage of the Technical and Vocational Training Assistance Act (1960). This act provided money for buildings and equipment; a permanent infusion for technical-vocational education's most critical problem. The intermittent federal funding of this type of education, although inconsistent, was a major factor in its establishment in the Department of Education in Alberta.

Proponents of post secondary vocational education voiced their disapprovals with vocational education in the public high schools. Their protests did not go unheard, yet neither did they prevent this new look for education from establishing a prominent position in the educational field. Numerous educators, experts from industry and commerce and vocational education teachers became involved in advisory committees, curriculum committees, and accepted ad hoc appointments in order to provide community support and general progress to these programs.

It became quite apparent early in the study that technical-vocational education was not totally healthy. Records were kept of students, and follow-up at post secondary institutions revealed that only small numbers of high school graduates from vocational education programs entered post secondary institutions directly. It was most difficult to maintain records if students went into industry from high school and then on to post secondary institutions.

Operational costs of these programs became relatively expensive, but this expense was not borne by the local taxpayer. Some progress was thwarted by the lack of understanding on the part of some academicians administrators in some instances. Higher rates of pay by oil company operations enticed many students temporarily into outlying districts but many returned to complete an apprenticeship in trade training which had been commenced in a vocational education program offered in the public system.

Attrition from some courses appeared excessively high. Part of that attrition could be traced to improper programming because of a shortage of trained guidance counsellors.

It became apparent, early in the study, that the vocational education program has been stifled in many areas for various reasons. The acute shortage of trained technicians is an increasingly difficult problem which appears to have no ready solution. Recruitment of qualified technicians from other countries has dried to a trickle. Technicians must come from the ranks of high school graduates or workers who have been re-trained. The

established to provide a degree of uniformity in training within Canada. This alone, will not resolve the problems in this area. More dynamic leadership must be provided provincially, from someone whose primary concern and authority rests with the one area: vocational education in the secondary schools. Municipally, the system must be reviewed, with the prime concern to improve the program which means strictly technical high schools teaching technical trade materials and related mathematics and sciences and languages. If this does not occur, the watering-down process or exploratory aspects of vocational education will continue to be industrial arts-oriented and not dedicated to trade competency as it should be.

The University of Alberta has been a major source of strength in providing a very comprehensive program for the training of vocational education teachers. Standards have been maintained at a high level, yet the University of Alberta has demonstrated a considerable degree of flexibility in providing post degree education for practicing teachers in both Calgary and Edmonton, and in 1981 commenced a special 13 month program in both Calgary and Edmonton to accommodate technically qualified tradesmen who wished to become teachers who would replace others who were retiring, or for various reasons were returning to industry. These programs have proved so successful that the universities in both cities through the Department of Industrial and Vocational Education will provide duplication of the Programs during the 1982-83 term.

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CHAPTER I

THE PROBLEM

INTRODUCTION

The first school in the City of Calgary was organized in 1882 and was supported by public subscription. Three years later by order of the Executive Council of the North West Territories the Calgary School District was established. The first school in the district was built in 1887 and contained four rooms where reading, writing, and ciphering were taught.

It was not until the turn of the century that manual training was introduced into the Calgary School system when that city was selected as one of the sites for the MacDonald Training Plan. In 1901 the South Waid School was selected as the manual training school for students enrolled in the schools of Calgary. Although this manual training venture was considered a success by educators the spread of vocational education was slow and sporadic. Authorities in control of education at the time were of the opinion that vocational education should be provided as an alternative form of education for students who had no intention of proceeding to university or for students who did not perform well in the academic stream.

During the 1912 - 1913 school term, the Calgary School Board employed its first administrator to oversee the development of pre-vocational training that was inaugurated at the Victoria School in 1914. There were 141 pupils enrolled at that school during its first year of operation. Of these 141 pupils, 65 were boys and 76 were girls from Grades VII, VIII and IX, who were required to take the prescribed academic courses. In addition to these courses, the boys had to take printing and woodwork and other elective courses. The girls in addition to their required academic courses, took courses in dress making, millinery and cooking plus other optional courses. The practical courses were used to develop interest in business and industry by the student. This pre-vocational program of Victoria School had been in existence for sixteen years before it was transferred to Western Canada High School in 1930.

During this sixteen year period of time the Federal government had enacted federal legislation to provide funds to support both vocational education and technical education. In subsequent years there were additional federal enactments that provided funds for the development and/or expansion of both vocational and technical education. The Calgary Public School Board, like other school boards in the province, took advantage of these funding arrangements to expand its offerings in vocational education.

Since vocational education has been an integral part of the educational delivery system of the Calgary Public School Board for approximately eighty years, it would seem that a historical study of vocational education in the Calgary Public School system would add to the educational literature of not only the city and the province but to the nation as well; a study that would focus on the development of vocational education from 1900 until 1982.

Purpose of the Study

The major purpose of this study was to describe from an historical perspective the development and expansion of vocational education in the secondary schools of Calgary that were the responsibility of the Calgary Public School Board covering the years 1900-1982.

Supporting Objectives

The following objectives were used to support the major purpose of the research.

1. To identify the amount of money that was spent by the Calgary Public School Board to bring on-stream vocational education programs of study in the comprehensive high school where such programs of study were offered.
2. To identify the number of student places that were made available for vocational education students when additional or new facilities for these students were constructed.

3. To trace the growth and development of vocational education programs of study that were offered in the comprehensive high schools of the Calgary Public School Board.
4. To examine the contribution that personnel from Alberta Education have made in a leadership capacity to the growth and development of vocational education in Calgary.
5. To briefly describe the role that the University of Alberta through its Department of Industrial and Vocational Education has had on the preparation of vocational education teachers for the schools of this province.

Limitations

Historical research because of the nature of the data collected, could be influenced by the biases of the researcher or in the manner in which these data were selected, examined, verified, analyzed and presented. This could be considered as one of the major limitations of this or any historical research investigation that is historical in nature.

This study by the parameters of the research design was concerned with the development and expansion of vocational education programs of study that were offered in the secondary schools administered by the Calgary Public School Board and not in any of the dissident schools of that city. This was the first limitation that was imposed on this research.

A second limitation that was placed on this study was the availability of information to the researcher that may be stored in the archival collections of such primary sources as: libraries, municipal, provincial and university, newspapers, board of education minutes, and Alberta Education as well as in past publications of the Alberta Teachers' Association and the Industrial Education Specialists' Council of that Association.

Related to the second limitation was a third limitation which is the amount of formal literature that was published or written on the historical development of vocational education in the Calgary Public Schools. This lack of reference material that might serve as a resource for this study must certainly be classified as a limiting factor for this study.

It is possible that much of the archival material that was considered to be primary source material, although available at the various repositories may not, because of rule or regulation be accessible to the researcher for examination and review. This lack of accessibility posed a fourth limitation on the research.

Because the research design of this study was to provide the historical development of vocational education in the Calgary Public Schools it was limited to vocational education only and very little mention was made of industrial arts. This placed a fifth limitation on this research.

Assumptions

The following assumptions applied to this historical study.

It was assumed that the Board minutes of the Calgary Board of Education, and annual reports of the Department of Education that were written during the time frame 1900 to 1982 accurately recorded the significant events that occurred at the time that these events took place.

It was also assumed that such secondary sources as newspaper articles, reference books or text books that had been written on vocational education during the time frame of this study were free of author bias and accurately interpreted the information taken from bibliographical sources listed by the author.

Significance of the Study

The significance of a historical study of vocational education in the

Calgary school system becomes readily apparent when a review is made of any card catalog of any major library. This review will invariably show the paucity of reference material that is available on the development of vocational education in Calgary from an historical perspective. It was hoped that the results of this study would fill this void and add to the literature, a report that is specifically directed at the history of vocational education for the Calgary School Board from 1900 to 1982

This study may also have some significance for graduate students conducting historical or educational research, because these students might use the results of this study as a guide as they investigate how select school jurisdictions in Canada took advantage of federal "seed money" to develop or expand their vocational education programs of study.

Educational historians may find the references listed in the bibliography useful to them, particularly as these individuals use these sources to verify some of the major events related to vocational education in both Calgary and Alberta. Prior to the completion of this study much of this information was stored in "dead storage" or in archival collections of a number of agencies that were involved in the research. This may add a third significance to the study.

The results of this study may have some significance for undergraduate vocational education students enrolled in the teacher education program of Alberta's universities particularly as these students study about the foundations of vocational education in Alberta.

Definition of terms

In writing this report the following terms were used by the researcher and are defined for the benefit of the reader who must understand each term in order to comprehend the content of the report.

Calgary Public School Board - The School Act, 1970, defines a school board as "a board of trustees elected by the adult members of the City of Calgary

school district and established by the Minister". The members of the board are a corporation under the name of "The Board of Trustees of Calgary School District No. 19". (p.19)

The term "School Board" will be synonymous with the term "Calgary School Board". The term "Calgary Board of Education" will apply after 1 January, 1974.

Comprehensive High School - According to Alexander (1967) a comprehensive high school is a school which provides learning opportunities for all the normal adolescents in its population within a range from barely educable to the gifted and talented. In further discussion of the comprehensive high school this author gave the purposes of this type of school to enable each student to:

- (a) develop to his greatest potential for his own success and happiness.
- (b) make a maximum contribution to the society of which he is a part (p.9)

Keller (1955) on the other hand, describes the comprehensive high school as having as its broadest objective the teaching of all varieties of skill, all kinds of knowledge to all kinds of youth bent upon living socially profitable lives. To each one it seeks to give the course for which he seems best fitted. (p.32)

Although Alexander and Keller described either the purpose of a comprehensive high school or the objectives of this type of school they did not give a definition like Giachino and Gallington. These authors in their book Course Construction in Industrial Arts, Vocational and Technical Education state:

A comprehensive high school is one whose program of study permits its student body to pursue three broad avenues of educational achievement: (1) preparation for college, (2) preparation for post-high school training at a technical institute, junior or community college, and (3) entry into some specific occupation. (Giachino & Gallington, 1977, p.17)

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The definition of Giachino and Gallington was found acceptable for this study.

Industrial Education:

Authors such as Giachino and Gallington (1977), Baird (1972), Silvius and Curry (1971), Silvius and Bohn (1961) and Roberts (1965) who have written on either the theory of vocational education or the instructional strategies to deliver instructional content for both industrial arts or vocational education also present in their books a definition for the term industrial education.

In defining the term industrial education Giachino and Gallington (1977) in their book, Course Construction in Industrial Arts, Vocational and Technical Education consider industrial education to be a type of educational structure which permits learners to develop their abilities to their maximum potentialities. These authors give the following definition for industrial education:

A broad term that includes all educational activities dealing with modern industry. It is an inclusive term used when referring to industrial arts and vocational-technical education. (p.39)

Baird (1972) in his book Contemporary Industrial Teaching: Solving Everyday Problems, presents a definition for each of the terms that come under the rubric industrial education. This author points out that these definitions are presented to reduce confusion among those preparing to become industrial education teachers. According to this author,

Industrial education a generic term used to encompass all types of education dealing with industry and technology in our society. (p.6)

Baird makes use of a chart to show the relationship that vocational education, vocational industrial education, trade and industrial education, industrial arts, and technical education have to the generic term "industrial education".

Silvius and Curry (1971) also use a chart to show how effective programs in industrial education are meeting the educational requirements of individuals in a technological society so that these individuals remain technically up-to-date and acquire the competencies for the changing world of work by acquiring new skills, new attitudes, and new information. (p.11) The definition for industrial education given by these authors in Managing Multiple Activities in Industrial Education is more inclusive than the definition given by Baird because these authors include more programs under the term industrial education. To Silvius and Curry industrial education is:

A generic term used in referring to industrial training, vocational-industrial education, industrial arts, technical education, apprenticeship, and the offerings of private trade schools. It is concerned with all education which has been adapted to meet the needs of industrial technology and to interpret industry. (p.592)

In their book Organizing Course Materials for Industrial Education Silvius and Bohn (1961) use a systems chart to show the inter-relationship that exists between industrial arts and the other educational structures that are used to provide the learner with the skills, attitudes and abilities needed in the world of work. The definition according to these authors for industrial education is to consider this term:

As a generic term in referring to industrial arts, trade and industrial education, industrial training, technical education, apprenticeship, and the offerings of private trade schools. It is concerned with all areas of education designed to meet the needs of industrial technology and develop an understanding of industrial activities. (p.79)

Roberts (1965) in writing on the subject of Vocational and Practical Arts Education also presents definitions for each of the programs of study that comprise the educational structures of occupational education or those programs that prepare a learner to enter the world of work. However, this author uses the term vocational industrial education to include courses that are given in trade schools, in technical schools, in general purpose secondary schools and in factories and industrial plants. (p.285) This

author includes the apprenticeship program under vocational industrial education. Roberts defines industrial education in this way:

Vocational industrial education, together with general industrial education or industrial arts, and vocational technical education constitute the broad field of industrial education. (p.285)

The term industrial education was first presented to industrial arts and vocational education teachers of Alberta at a conference that was held in Red Deer, Alberta on 24 - 25 April, 1969. At that conference the Associate Director for Curriculum for the Department of Education, Dr. J. D. Harder presented "A Proposal For Industrial Education". In his proposal Harder pointed out that there had been a change in the philosophy of the Department of Education concerning both elementary and secondary education, more specifically, vocational education. Two of the major changes that were contemplated were that industrial arts and vocational education be coordinated and that the vocational course credits be more flexible, i.e. shorter courses. (Harder, 1971, p.12)

In his proposal Harder (1971) presented two significant definitions that have been modified over time. He first defined industrial education as:

A continuum of experiences starting with industrial arts at the junior high school and expanding to the development of skills related to career fields through courses in industrial arts and vocational education, and finally culminating in on-the-job work experience or entry into a post-high school institution. (p.5)

In his definition Harder included the term "career field" which was new to the teachers who attended the Red Deer conference. For the benefit of these teachers, Harder defined a career field in this manner:

Career field - This represents a family of occupations or career clusters. Courses in a career field have much in common as to the types of activities and processes involved in the occupations they represent. (p.5)

Since the time that these definitions were formulated, the Integrated Practical Activities Program (I.P.A.) has been integrated into the elemen-

tary schools of the province. When this integration took place a complete ladder of educational structures became available to students enrolled in the schools of Alberta. In its publication Integrated Practical Activities for Elementary Grades (1980), Alberta Education points out that I.P.A. is one of many teaching strategies and should be used only when "learning by doing" is most effective and appropriate in terms of the learner's level of development (p iii)

The most recent definition for industrial education that has evolved over the years appears in the Handbook in Industrial Education for Guidance to Teachers, Counsellors and Administrators (1979), a publication of Alberta Education. This definition differs slightly from previous definitions because (1) it identifies industrial education as a "program" that consists of "courses", and (2) it includes the words "exploratory experiences and activities in the elementary" and (3) it makes no mention of the term industrial arts. The definition for industrial education that appears in the Handbook reads in this way

Industrial education is a program consisting of courses that provides a continuum of experiences, starting with exploratory experiences and activities in the elementary and junior high schools, expanding in the high school to the development of skills in career fields and culminating in on-the-job experience (p 2)

The Handbook further describes industrial education at the junior high school level - the exploratory phase - and the senior high school level - the orientation phase of the program.

For the purpose of this study the definition for industrial education given in the 1979 edition of the Handbook was found to be acceptable.

Vocational Education - The term vocational education is a relatively new term to be used by educators when compared to terms like academic education scientific education or general education. The term vocational education first appeared in the educational literature about 1917 when the Congress of the United States of America enacted the Smith-Hughes Vocational Education Act of 1917. This was the first piece of federal legislation on this

continent to provide funding for vocational education at the secondary school level.

In Canada because of Section 93 of the British North America Act federal legislators have been extremely cautious about using the noun "education" in the title of legislation that provides funds for the support of vocational or technical education. Because of this caution these legislators in most instances used the term "training" in the title of federal enactments that provided federal funds for vocational and technical education.

The Technical and Vocational Training Assistance Act (1960) gives the following definition for the complimentary terms technical and vocational training. This definition is found in the preamble to the Act which defines technical and vocational training as:

Any form of instruction, the purpose of which is to prepare a person for gainful employment in any primary or secondary industry or in any service occupation or to increase his skill or proficiency therein, and without restricting the generality of the foregoing, includes instruction for that purpose in relation to:

- (i) agriculture,
 - (ii) fishing,
 - (iii) forestry,
 - (iv) mining,
 - (v) commerce,
 - (vi) construction,
 - (vii) manufacturing,
 - (viii) transportation or communication, and
 - (ix) generally, any primary or secondary industry or service occupation requiring an understanding of the principles of science or technology and the application thereof, except where such instruction is designed for university credit.
- (p.1)

In 1966 an article by J. T. Karpoff, principal, Victoria Composite High School, Edmonton appeared in the IAVEC¹ Newsletter on "the Context of

1. IAVEC is an acronym for the Industrial Arts and Vocational Education Specialist Council of The Alberta Teachers Association. This professional organization for industrial arts and vocational education teachers was the predecessor of the Industrial Education Specialist Council (INDEC).

Vocational Education in the Alberta High School". Vocational education was the broad term used to describe that type of education designed to develop knowledge, skills, abilities, understandings, attitudes and habits needed by individuals to enter and make progress in occupational careers on a useful and productive basis.

A vocational education program was described as the carefully selected pattern of high school courses designed to provide a sound general education and to successfully develop special interests and abilities and to accomplish specialized career objectives.

A vocational student was a student who was registered in an instructional program which, in addition to a pattern of general education courses, contained 35 high school course credits in one occupational cluster. It was pointed out in the article that the average high school students total educational program contained between 100 and 120 high school course credits. (IAVEC Newsletter, April 1966, p.5)

DATA COLLECTION

To collect data for this historical study the following procedures that are specific to this type of research were used. Traditional library reference materials such as published books, journals, periodicals, published papers and monographs were researched for information that was relevant and pertinent to the purpose and the supporting objectives established for this study. A review was also made of curriculum guidelines and programs of study published during the timeline of the study that were made available by the Department of Education to school boards in the province. Unpublished works such as masters' theses and doctoral dissertations related to the study were also reviewed for data that had implications for the current study.

The researcher secured the most accurate data that were available by using primary sources to formulate a simple, clear, description of the development of vocational education in the Calgary Public School System.

Annual reports and periodic reports or papers that emanated from the central office of that school board as well as annual reports that were prepared and distributed by the Department of Education and its successor Alberta Education, were used to ascertain the validity of the information that appeared through primary sources.

Other primary sources that were reviewed were calendars from the University of Alberta, both the Calgary and Edmonton campuses, to provide the researcher with information on teacher education as it pertained to the preparation of industrial arts and vocational education teachers.

Annual reports from the Federal Department of Labour and Statistics Canada also served as primary sources of information in preparing the final report of this historical study.

The secondary sources that were used in the data collection phase of this study included newspaper articles and editorials that were written on the topics of industrial arts, vocational education or technical education.

Organization of the Remaining Chapters

The balance of the remaining chapters of this report will have the following organization.

Chapter II	Review of Related Research
Chapter III	Federal Legislative Involvement in Technical Vocational Education Through Legislation
Chapter IV	Implementing the T.V.T.A. Act in Alberta
Chapter V	Vocational Education Becomes a Reality in Calgary Public Schools
Chapter VI	An Overview of Industrial Arts in Calgary Public Schools
Chapter VII	Teacher Preparation
Chapter VIII	Agents of Change
Chapter IX	Summary, Observations, Conclusions, Recommendations For Further Study

CHAPTER II

REVIEW OF RELATED RESEARCH

INTRODUCTION

The first chapter of this report provided the research methodology that was used to collect data that was essential in organizing the content of the thesis.

The second chapter will include content that centers around research studies that have been completed by Albertans that were historical studies of the two complimentary programs of industrial arts and vocational education. A section of this chapter is devoted to a historical overview on the organization of the schools of the Calgary Public School System. Another portion of this chapter concentrates on the efforts of the Calgary School Board to inaugurate and put into place a pre-vocational program of study to prolong the school attendance life of those students who would otherwise become early school leavers.

RELATED RESEARCH

A review of the indices that are used to report the findings of educational research show that no major studies have been completed on the history of vocational education in the Calgary Public School System. However there are a number of historical or descriptive studies that have been completed by Albertans as they fulfilled the requirements for an advanced degree. Among these are masters theses by Simon (1962) who wrote on the History of the Alberta Provincial Institute of Technology and Art; Harder (1964) The Development of the Industrial Arts Program and Its Present Status in the Province of Alberta; Shields (1970) A Description of Vocational Teacher Preparation at the University of Alberta 1962 - 1969; Smith (1973) The Development of the Industrial Arts Multiple-Activity in Alberta; and Torstensen (1973) whose thesis on The Perceived Values and Future Role of Vocational Education in Calgary Public High Schools was

locally related. From a review of these indices two research doctoral dissertations were identified that were related to this research. The authors of these dissertations were: Bryce (1970) The Technical and Vocational Training Assistance Act of 1961-67: An Historical Survey and Documentary Analysis and Grywalski (1972) A History of Technical Vocational Education in the Secondary Schools of Alberta, 1900-1969.

SIMON

Simon (1962) in his descriptive study examined the influences which led to the establishment of the Provincial Institute of Technology and Art. These influences were the placing of both the Provincial capital in 1905 and the University of Alberta in 1908 in Edmonton. The most important influence according to this researcher was the establishment in 1912 of Calgary College which was a private university. Because provincial legislation prohibited the founding of a second university in the province, in 1915 a Royal Commission was struck to investigate the operation of Calgary College. One of the recommendations of the Commission was that an institute of technology and art which was not to offer university courses be established in Calgary. (p.iv)

Throughout his thesis Simon shows how funds from the various agreements to fund vocational or technical education that were signed between Ottawa and Alberta were used in the growth and development of the Institute. Simon was of the opinion that the Institute was prevented from achieving its main purpose because the province did not have a diversified and articulated program of vocational education at the secondary school level. (p.v)

HARDER

The major problem of this research was to investigate the development of industrial arts, its expansion of facilities, enrollments and teachers using the decade 1952 to 1962 as a time frame; a period of time in which the federal government had appropriated hundreds of millions of dollars in support of vocational education but offered no financial support for

industrial arts. In his study Harder shows that the teaching environment for industrial arts was changed from a unit shop organizational pattern to that of a multiple activity laboratory where materials and the common technologies were taught.

The findings of this research show that there was rapid expansion in both facilities and staff for industrial arts between 1952 and 1962 and that the program was meeting the needs of the students after they graduated from high school.

SHIELDS

The research completed by Shields (1970) was a descriptive study of the vocational education teacher preparation program at the University of Alberta between 1962-1969. The results of this study had significance for the current study because the vocational education teacher education program of the university was established in 1962 and was funded under Program 7 of the Technical and Vocational Training Assistance Act (T.V.T.A. Act).

A number of other researchers who have written on the history of vocational education in Alberta make mention of the Advisory Admissions Committee of the Faculty of Education but fail to describe the composition of this Committee. Shields is the only researcher to describe this Committee; a Committee that reviewed trade qualifications of applicants to the vocational education teacher preparation program of the Faculty of Education. According to Shields the members of the Committee included: The Dean of Education, the Chairman of the Division of Industrial and Vocational Education, the University Admissions Secretary, the Chairman of the Provincial Apprenticeship Board, and the Supervisor of Vocational Education of the Department of Education. (p.32)

Shields in his report shows that students enrolled in the vocational education teacher education program of study for the seven year period to be 558 students. Of this number 124 or 22.2% were between the age of 35-39;

191 were between age of 40 and 59 which represented 34.3% of the students who were enrolled in the vocational education teacher preparation program between 1962 - 1969.

SMITH

The purpose of Smith's research was to describe changes in the philosophy, objectives, teacher training and improvements in physical plants for industrial arts since the (mid 1930's) in Alberta. Efforts had been made by teachers to provide practical nurtured education to a proportion of Alberta' students. In the early sixties when new vocational education facilities were built the emphasis on the industrial arts program took an immediate shift from psychomotor skill development to teaching concepts of materials, processes, and technologies found in modern industry.

Smith concluded that industrial arts should remain infused into Alberta education for two major reasons. The first of these reasons was that industrial arts could have some vocational value. The second major reason was that industrial arts had a close relationship to general education. One of the important findings of this study was that industrial arts had a greater acceptance in areas where the local economy was based on a diversified industrial foundation.

Implementing the new plan for industrial arts, which came to be referred to as the Alberta Plan, required several years because not every school board in the province was in favour of reorganizing their industrial arts facilities from unit shops to multiple activity laboratories. One of the major reasons for this resistance on the part of these school boards was the amount of money needed to make the conversion. However, by the 1970-71 school term 86.9% of the industrial arts facilities in the province had converted to the multiple-activity organizational pattern.

Other conclusions of the research were: that the multiple activity program had been widely accepted by administrators, teachers, students and their parents, and that the teacher education program at the university for

pre-service industrial arts teachers was more appropriate because these individuals acquired their expertise in a multiple activity laboratory.

TORSTENSEN

Torstensen (1973) submitted a study on perceived values and future role of vocational education in Calgary Public High Schools in 1973 to the University of Calgary. In this study, the researcher compared several aspects of the vocational education program with other high school programs.

Aspects of the vocational education courses probed were: student involvement, reasons for involvement, relevancy and enjoyment, importance in job placement, importance within the school, and program flexibility. Descriptive data were tabulated as percentages. Where comparisons in programs could be made, a chi-square test was used to determine the differences.

It was found that males and females who formed all high school grades and programs were well represented in the vocational education courses and that most of them were taking vocational education courses as a part of general education. The vocational education courses were keeping many students in school.

Almost all questionnaire respondents (1605 students, 489 graduates, 449 parents and 142 employers) considered the vocational education courses to be important. The majority of students and graduates considered the vocational education courses to be enjoyable, interesting and relevant.

The results of the questionnaire indicated there was a need for more flexibility in the vocational education program. The advantages to a vocational education graduate in job placement were not evident as employers were often unaware of the employee's vocational education experience in school. The general conclusion was that vocational education was an integral, important and well accepted part of the total high school program. Implications for educators included: the importance of avoidance

in categorization of students; the necessity for increased flexibility so that all students would have the opportunity to take vocational courses; the necessity of accepting and promoting vocational education as an integral part of the total high school program: and finally, the necessity for promotion of better industry - educator communications and co-operation.

Reasons for taking vocational education courses were, in descending order, interest, trade advantages, a well-rounded education and preparation for technical institutes. Over three quarters of the student sample favoured the semester system and the idea of both working and attending school during a regular school day. Four out of five students in the vocational education program felt they would be well prepared to enter a trade after graduation from high school and the same proportion expected to find employment in the area of their training.

The researcher felt that vocational education courses should be promoted as an integral part of the high school program from which all students could benefit, but more flexibility in high school programming should be promoted. Vocational education programs appeared to be more satisfying and successful because vocational education teachers were aware of varying abilities and motives of students and have been successful in adapting within the courses to meet individual student needs.

BRYCE

Bryce (1970) conducted an historical survey and documentary analysis of the Technical and Vocational Training Assistance (T.V.T.A.) Act of 1960-67. The results of this research were important to the current study because they included a history of federal - provincial agreements for technical and vocational education prior to 1961 as well as the expenditures that the Federal government paid to the provinces under the various provisions of the T.V.T.A. Act. (p.334)

The total expenditure costs for the projects approved by the Federal government, 1 April, 1961 to 31 March, 1963, for Alberta was \$49,924,849. Of this amount the Federal government contributed \$36,994,715.00. (p.234)

Bryce points out that the phase-out arrangements for the Capital Expenditures Program alone required a total federal contribution of over a billion dollars (\$1,146,047,200). (p.308) As a result of these expenditures during the period 1 April, 1961 to 31 March, 1968, new students places had increased to 496,298 spaces; an increase of 46% over 1960. (108,000). (p.308) Of these nearly four hundred thousand new students places, 35,142 were in Alberta in 1969. (p.272)

Of the \$1,146,047,200 of the final federal capital grants allotted to the provinces, Alberta in 1966 was allotted \$79,203,200. By 31 March, 1969 Alberta had received 95.4% of its allotment or \$75,531,363. (p.309)

Bryce gives the following major reason for the demise and eventual termination of the T.V.T.A. Act.

Failure of provincial officials to give public credit to the Federal Government for the fruits of the TVTA Act, in the long run such neglect helped to "kill the goose". (p.36)

According to this researcher there were a number of features of the legislation which contributed to its failure. Among these were:

- (1) the "smorgasbord" nature of the Act;
- (2) no quota provisions;
- (3) no equalization formula; and
- (4) "built-in" dilution of decision making. (p.336)

GRYWALSKI

Grywalski (1973) in collecting data for his historical study of the history of technical-vocational education in the secondary schools of the province used mainly bibliographical sources both primary and secondary and supplemented these sources by interviews. From analyzing the developments of secondary school technical-vocational education for over fifty years Grywalski concluded that the results have been disappointing because they were influenced by a young province which was faced with problems of industrial development, immigration, depression and economic prosperity. (p.298)

This researcher states "in spite of the monies spent and the prolonged labours of many educators, vocational education did not achieve the successes anticipated" (p 299). Some of the factors that contributed to this limited success were:

- (a) vocational education . . . has received little support either from students, educators, or the public at large . . . Those who pursue vocational or technical education are regarded as intellectually inferior and viewed by society with considerable disdain. All too often technical-vocational education has become the "dumping ground" for students unable to cope with the regular academic studies.
- (b) Educators themselves have been divided regarding the merits of technical-vocational education, and since in many of the secondary schools leadership has been provided by principals whose educational backgrounds are academic inadequate recognition has been afforded to non-academic programmes.
- (c) Both vocational and technical education have suffered from a lack of adequate publicity; not only has the Department of Education been negligent in this regard, but most school boards and superintendents of schools have done little in informing the public about the merits of technical-vocational education. Consequently technical-vocational education has been criticized harshly by many with an incomplete understanding of the facts.
- (d) Technical-vocational education has suffered from the failure of the Department of Education to state clearly the philosophy and objectives of technical-vocational education and its relationship to general education and to the programme of academic studies.
- (e) Technical-vocational education has been plagued by the problems of high operational costs. Consequently, increased budget costs have reflected a reduction in technical - vocational facilities or in equipment. In small schools, such increased costs have resulted either in a reduction of courses offered, the closure of the existing facilities, or in an apportionment of funds from other programmes (pp.299-301)

Although the above quoted material indicates Grywalski was less than satisfied with the reaction of the various publics toward vocational education and those in leadership positions to influence it, he did acknowledge the fact "that the province of Alberta has pioneered and led the

way in many aspects of technical-vocational education" (p 303). This researcher continues by saying the most recent of these were:

the development of truly technical - vocational programmes at the high school level;
the establishment of degree programmes in vocational education at the University of Alberta;
the arrangement of articulation of technical vocational programmes with the technical institutes and apprenticeship training. (p.303)

CALGARY ORGANIZES ITS SCHOOLS

The Calgary School District was established by order of the Executive Council of North West Territories on 2 March, 1885. Before that time in 1882 and 1883 a school was organized by the parents of children living in the village and was supported by public subscription. This school was convened in the basement of Boynton Hall which was located near Ninth Avenue between Second and Third Streets East. Twelve pupils attended this school which was started largely through the efforts of Col. James Walker, who was also instrumental in establishing the Calgary Public School District No 19. Col. Walker, who came west with the first detachment of mounted police, also served as a member of the school board for fourteen years and its chairman for six years.

The first election for school trustees was held on 11 April, 1885. Assessment was set at 4 mills on the dollar. Summer holidays were from 10 July to 10 August. The first inspector was Reverend John McLean from Macleod who inspected the classes for the North West Government (From Slate Pencil to Instant Ink, Calgary's Public, Separate and Private Schools, 1975, p.7)

The growing school population of the district made the school on Ninth Avenue inadequate, so the lower part of a building located at Eighth Avenue and Second Street East was rented for school purposes. During the 1885 fall term about 70 pupils were enrolled in this school. By 1887 this accommodation became overcrowded and the decision was made by members of the School Board to erect a new school with four rooms that would be large

enough to accommodate the school population for some time to come. This building was completed in November 1887 on the Central School grounds, First Street and Fourth Avenue South West.

The next year (1888) enrollment increased to 240 pupils which seriously overcrowded this school. By 1889 one room in Central housed 113 pupils. During the summer of 1889, the first two high school departments were organized in Western Canada: one in Calgary and the other in Regina.

In 1893 disagreement arose between the teachers and the School Board over the issue of corporal punishment in the schools because the School Board had not adopted a firm policy on this matter. Shortly thereafter a committee of the School Board published the "Blue Book of Rules and Regulations" that included a clear statement on disciplinary measures to be adopted by school personnel within the system. This book of rules and regulations exists today and is referred to as the "Blue Book".

Monthly progress reports as well as Music as a subject were first introduced in 1892. The first audio aid to arrive in the district was an Edison phonograph. Two years later, 1894, the school population of the district increased to 400 pupils.

In 1901 under the McDonald-Lloyd Training Fund the fore runner of industrial arts and vocational education appeared in the South Waid School which was located at Thirteenth Avenue and Second Street West. This school was referred to as the Manual Training School and was under direction of Mr. H. M. Snell. (The MacDonald Training Plan will be described in detail in a subsequent section on this report.) A few months later sewing classes for girls were organized in other schools of the system.

By 1903 there were 1020 students enrolled in elementary school, Grades I through IX, and 79 students were enrolled in the high schools. In 1913, 155 Grade VIII pupils or approximately 2% of the total school population wrote the high school entrance examination.

Concern was expressed among educators regarding the number of dropouts that occurred at the Grade VII and VIII level. Data in the following table indicates considerable losses occurred between June 1913 and September of that year in Calgary schools when 159 students left school early. The number of pupils who dropped out were exclusive of those who came from other school jurisdictions.

TABLE 1
NUMBER OF SCHOOL DROPOUTS IN CALGARY PUBLIC SCHOOLS
JUNE AND SEPTEMBER 1913

MONTH	GRADE	NUMBER OF PUPILS	TOTALS	NUMBER OF DROPOUTS
June	V	610	1160	159
	VI	322		
	VII	228		
September	VI	463	1001	
	VII	334		
	VIII	204		

Information for this table was taken from: (The Albertan, 16 October, 1913)

According to an article that appeared in the 16 October issue of The Albertan (1913) of the 216 pupils in Grades VI and VII, 104 or less than half, intended to remain in school long enough to take Grade VIII, of these 104 students only 36 expressed that they intended to go on to high school. By 1919 the high school population reached 1000 with 8680 in the elementary schools. By that time there were 293 teachers in the system. The Superintendents' Report for 15 April, 1930 showed a total high school population of 2,729 with a total school population of 12,088 elementary and secondary school students. By 1934 the high school population had increased to almost 4000 (3,960) and there were over 15,000 students in total with 285 elementary teachers plus 109 high school teachers. (Calgary School District No 19, Pamphlet 1885-1935, 1937, p.13)

Twenty seven years later in 1961 there were over 7000 (7129) high school students with a teaching force of 311.5 high school teachers. By 1970 the high school student population had increased to 17,081 students with a high school teaching population of 874.5 (a population consensus by high school for both students and teachers from 1961 through 1970 can be found in Appendix B pages 262-270).

EARLY HIGH SCHOOLS

CENTRAL HIGH SCHOOL

Statistics show that by 1903 there were 719 students enrolled in the high schools of Calgary and as the population of the city continued to grow so did the high school population. The first high school to be built in Calgary was Central Collegiate Institute, later renamed Central High School, which was built in 1908 at Thirteenth Avenue and Eighth Street South West. This eight room school had its' own heating plant which burned coal and had indoor plumbing. The school was built of sandstone that was quarried from Shaganappi. At that time it was considered the most elaborate and functional school in Western Canada. This school was also the first school in the district to have a commercial department. Four years later, in 1912 an addition of four rooms was added to this eight room high school.

Overcrowding of Central High School with 328 pupils in 12 rooms in 1913 resulted in the school board making the decision to establish Crescent Heights High School in the North West section of the city. In 1966 Central was no longer used as a high school but became a holding unit for junior academic-vocational students until the site for the new junior vocational school was completed in 1969 at Fiftieth Avenue and Twenty Second Street South West.

In 1968 on an adjacent site, a new composite high school was completed - Central Memorial High School - with the new junior academic-vocational high school (Shaughnessy) operating at capacity in the immediate vicinity.

CRESCENT HEIGHTS HIGH SCHOOL

The village of Crescent Heights was established in 1907 as a satellite community of the City of Calgary, the same year that Crescent Heights School District No. 1768 was formed. This District opened its first school in 1907 when it rented hall space from a church located at Eleventh Avenue and First Street North West. Crescent Heights built a school at 220 - Sixteenth Avenue North West which was opened in 1909. When the Greater Calgary Bill was passed by the legislature in 1910 the village of Crescent Heights and its School District, as well as Nose Creek School District No. 433, and the West Calgary School District No. 209, were annexed to the City of Calgary. The area represented by these three annexed areas was approximately forty square miles. (From Slate Pencil to Instant Ink, 1975, p.109)

Manual training and household science became mandatory subjects in Grades IX and X in 1916. Mr. F. S. Morrison taught manual training and by 1917, eleven of the twenty-five high school classes in Calgary were located at this school. The old Crescent Heights building was remodelled at a cost of \$11,000.00 for manual training, but both manual training and household science were discontinued in 1923 because of financial constraints.

By 1928 Calgary's increasing population dictated the necessity for a new high school and the New Crescent Heights High School was erected at Tenth Avenue and First Street North West. This school consisted of 21 classrooms and cost \$275,000.00 to build. However, no arrangements for technical education were considered until 1946, when a 30 room technical wing was added and Crescent Heights became a composite high school. Further building additions in 1950 included more shops, business education and home economics rooms. A new cafeteria was added in 1951.

WESTERN CANADA HIGH SCHOOL

Western Canada High School originally opened as a college in 1903 in a two storey house located at Fifteenth Avenue between Third and Fourth Street South West. The Canadian Pacific Railway donated 20 acres for the site of

the college and in 1904 a four storey building was completed between Fifth Street South West and College Lane and Seventeenth and Twentieth Avenue. At this college emphasis was placed on shorthand writing typing and bookkeeping. Tuition was \$50.00 for the general course. Board was \$4.50 per week. The Commercial course was \$30.00 for three months duration. This institution was the largest of its kind west of the Great Lakes and was affiliated with the University of Toronto. Pupil-teacher ration was 20 - 1. However when the Secretary of the College absconded with \$50,000.00 of the schools' money the College was forced to close. After the College closed it was sold to the School Board for \$35,000.00. The Board fully intended to open a junior technical link between the public system and the institute of technology. However in 1929, the old building was demolished and a new school building was erected in its place. In the East wing of this building 21 rooms became the technical high school for the City of Calgary. This school in 1929 had an enrollment of 140 pupils. (From Slate Pencil to Instant Ink, 1975, p.122)

During World War II shop instructors at Western Canada High School taught from 4 - 12 each evening. Wartime Emergency Training Program (W.E.T.P.) trainees in pre-aircrew training attended these special classes, primarily to upgrade their skills in mathematics and in the sciences.

The impact that the funding arrangements under the T.V.T.A. Agreement had on the expansion of the facilities of these three schools to integrate vocational education in their offerings is detailed in another chapter of this Report.

REPORT OF THE COMMITTEE OF THREE

Although a quasi-form of vocational education had been in place in the school district since 1901 the spread of vocational training was practically non existent until a Committee of Three was struck by the School Board. This Committee was given the mandate to visit schools in the United States that offered a pre-vocational education program, to review its structure, and to report findings of the Committee to the School Board

Authorities in control of education at that time, felt that vocational training should be provided as an alternate form of education for those who had no intention of proceeding to university or for those who did not perform well in the academic stream.

During their tour and in discussing the dropout problem with other educators they visited with, the Committee found that student retention increased where a pre-vocational course had been instituted in Grades VII and VIII. Where this course was offered it helped to keep students in school longer and helped to prevent them from drifting into "blind alley" occupations after they left school.

When the Committee presented its Report to the Board the content of the Report was thorough and included specific recommendations. This Report laid the ground work and direction that technical education would take in the District. The Committee felt that equal opportunity in education would not be provided students in Calgary when compared with students in Winnipeg or in the many cities which they visited unless a pre-vocational program was instituted by the Board. Members of the Committee felt that a change in type of school for the upper elementary school grades was urgently needed because too many students were leaving school at the end of Grade VII (Grade VIII population in 1913 was less than 150).

One of the principal recommendations was that immediate action be taken to establish a pre-vocational course in the system. Most of the experts with whom the Committee met agreed that to establish a pre-vocational course in a school district was indeed a complex problem because of the number of variables that would be encountered. The Committee also made the following recommendations: that a large modern building with ample facilities for industrial and commercial training be made available where (a) full courses (b) short courses (vocational) (c) part-time continuing education courses and (d) evening classes could be offered; that the commercial courses to be offered in the high school be developed into a strong vocational course to be taught in well equipped classrooms with the latest equipment; that immediate steps be taken to organize pre-vocational courses for boys and

girls in some convenient centre of the system; that a complete system of guidance including an employment bureau become an integral part of the system; and that advisory committees of citizens be appointed who would provide direction for the pre-vocational courses. (Calgary Herald, 13 October, 1913)

The pre-vocational program was expected to prolong the school attendance life of many students who would otherwise drop out: those who intended to take up a trade; those who took the modified pre-vocational course and later on who changed their minds; and those who were still in school but were beyond the average age of their grades. Plans were instituted which would include a study of industrial conditions in Calgary and the formation of a vocational bureau. (The Albertan, 16 October, 1913)

An article that was published in the Calgary Herald indicated that the School Board made the decision to start the pre-vocational course in three classes at Victoria School with the opening of the 1913-14 school year. The programs that were to be offered included manual training and commercial and domestic science.

PROVINCIAL AID FOR TECHNICAL EDUCATION

A provincial Order-In-Council was signed on 2 November, 1914 that provided special provincial aid for technical education. Special grants were provided to School Boards in support of instruction in Science, Agriculture, and School Gardening; instruction in Manual Training; night class instruction; pre-vocational, vocational and technical day classes; and special instruction in Art, Music, Physical Training, Writing or Primary Work. In order to qualify for these grants the organization, accommodation, equipment, courses of instruction, instructors and supervisors had to be approved by the Minister of Education. At the discretion of the Minister, a partial grant could be paid. In order to maintain the quality of instruction the instructors and supervisors had to hold certificates whose requirements were prescribed by the Minister.

A unique feature of this Order-In-Council was the appointment of a Provincial Director of Technical Education by the Minister of Education. The Director of Technical Education was responsible for co-ordinating and supervising the development of special education that received grant support.

FIRST PRE-VOCATIONAL SCHOOL ESTABLISHED

During the 1912-1913 term, the Board employed Robert Massey to take charge of pre-vocational training which was to be inaugurated at the beginning of the 1913-14 school year.

A summary definition for the term pre-vocational education is provided in the annual report (1916) of Calgary Victoria Pre-vocational School. According to that publication, pre-vocational education was considered to be that form of education that preceded direct vocational training, and which used the elements of different vocations as a means of arousing interest in education in those students to whom purely abstract studies did not appeal. (p.1)

It was sometimes argued by authors who had written on vocational education that the term "pre-vocational" was misleading and was likely to deceive the public. Principal Massey was a protagonist of this pre-vocational education argument and in the preface of the report on Victoria School wrote, "since it carries the suggestion of specific preparation, when in reality it does not give such preparation" (p.1). To this objection it should be said that the training given in the pre-vocational education program at Victoria School was preparatory for vocational education rather than vocational per se. Pre-vocational simply meant a form of general education which was designed to lay a better foundation for vocational courses than was commonly found in regular school programs.

The Victoria Pre-vocational School at Twelfth Avenue and Third Street East was established in 1914. The program of study at this school was designed for pupils 13 years of age and older who did not intend to proceed into high school. These students spent half of their school day on

practical industrial subjects and the other half day on academic subjects such as English, Mathematics, Science and Social Studies.

The industrial courses for boys included: drafting, woodwork, and printing. The courses for girls included the following: household arts, dressmaking and, millinery. Pitman shorthand was also taught. (Calgary Herald, 17 December, 1913)

In January 1914 pre-vocational classes began at Victoria School with an enrollment of 46 girls and 41 boys who came from regular classes from different city schools. Sixty-seven of those who registered in this first group of students were classed as retarded and were from Grade IV to VII.

Of the 141 pupils who were enrolled in the Victoria school in 1915, 65 were boys and 76 were girls from Grades VII, VIII and IX. All 65 boys took the prescribed academic courses and in addition, took printing and woodwork; 7 took shorthand; 15 took typewriting; 43 took metalwork and 50 took agriculture.

The 76 girls took the regular academic courses as well as millinery and cooking. Of the female students enrolled, 34 took shorthand; 20 took typewriting; 23 took physics and 55 took agriculture. (Calgary Herald, 17 December, 1913)

Much of the vocational work in this school was practical. For instance, the print shop printed programs for school concerts, school reports, etc., while the woodworking department built much of the school equipment and made up such orders as 46 window boxes for Ramsay school, gardening tools for agricultural study, all sorts of doors, partitions, blackboards and apparatus for the classrooms, repairs around the school, as well as sample work of all kinds. (Albertan, 10 May, 1916)

At the recommendation of the Principal the School Board approved the introduction of elementary leather work during the 1916-17 school year. Leatherwork was not to be an art form but was to be useful for home and farm.

PRE-VOCATIONAL EDUCATION/EMPLOYMENT

For several reasons, the pre-vocational school was brought into particularly close touch with the problem of the employment of the pupil leaving school at the age of 15 or 16. For one thing, such a school attracted many of the older boys and girls of Grade VII, VIII, and IX, who were not planning for professional careers or for a full high school program. The majority of these pupils were looking forward to becoming wage earners after one, two or three years at the pre-vocational school. For another, the practical courses all tended to develop interest in business or industry.

The variety of experience in the school helped both the student and teacher to discover the students interests, capacities, and character as a workman or wage earner. Those in charge of the school were in a particularly good position both to advise the students as to the suitability of a particular line of work and to inform a prospective employer as to the suitability of any particular student as a potential employee in a particular business. A growing willingness on the part of the business men and women of Calgary to co-operate with the Calgary pre-vocational school was done by notifying the principal of openings which may be filled by students. This kind of co-operation helped the employer by: increasing the probability that the student would give satisfactory service; by finding the best students permanent work which they could enjoy and at which they were likely to succeed; and by helping the school to show the students the practical value of making a good record, thus encouraging them to perform their best.

Pre-vocational experience helped to prepare the pupil for work in these ways: the student was brought into daily contact with practical work, stressing upon the student the concept that one needs to work to earn a living; the students had the opportunity to decide which kind of work they would like to enter after leaving school; the students could obtain considerable knowledge of methods, tools, materials they would find in industry; and the students could discover likes and dislikes, aptitudes and

weaknesses which could influence the selection of some particular occupation or further training. Further training could be taken at the institute of technology that would qualify the student for some skilled occupation.

DEVELOPING THE WHOLE CHILD

It appeared that the perennial question of developing the whole child could be sacrificed when specialization occurred at an early age for students who attended the pre-vocational school and took its total program. The principal of the school indicated that pupils were required to spend half their time in the academic subjects. In this half time, pupils were required to cover the regular course of studies for that grade with slight modifications to suit the reduced time that students would be in class.

The first object of the school was to provide a progressive series of constructive experiences so that the student was mentally as well as physically active and would arouse in the pupil the determination to carry out any assigned problem.

In an article that appeared in the 20 May, 1927 edition of the Herald that described the pre-vocational program the reporter wrote:

In the development of taste and its related powers of discrimination and appreciation, the experience afforded by these courses was considered to be of great value. To evaluate this experience, a person had to simply observe the opportunity which the students enjoyed in making comparisons of materials, textures, colors, designs, quality of work and suitability for purpose in connection with the projects undertaken by themselves and their companions in the workshop, printshop, the drafting or commercial departments of in their household arts or household science work.
(Calgary Herald, 20 May, 1927)

A number of pupils in the school who had not shown much interest in their school work in a previous school were awakened and stimulated by the activities in pre-vocational school work which had a stronger appeal to them. At the same time, pupils who received the greatest benefits from the

varied program of pre-vocational education were those who added to their special interests those native qualities of mind and character which enabled them to think, to plan and to apply themselves honestly and conscientiously to work and their careers.

PRE-VOCATIONAL PROGRAM REVISED

The original pre-vocational program that began in 1914 was first revised one year later as the results of a survey conducted by the School Board. The results of this survey indicated few, if any, of the students who graduated from the Grade VIII pre-vocational class continued in the regular high school program. As a result of this survey, it was decided that a Grade IX pre-vocational program should be offered. Students attending Victoria School and who were enrolled in a pre-vocational program were classified as either Grade VII, VIII or IX (pre-vocational).

The pre-vocational program was revised again in 1925 when the programs were classified as regular or special. The major difference between these programs was the amount of academic education that the students received. In the regular program, the academic work was designed to enable the students to write the standard examinations for each grade at the end of the school year. In the special program the theory work that the students took was more closely related to their practical work.

Although not considered as a major revision, new courses of study were introduced in the fall of 1930 for Grades VII and VIII, which called for reductions in time for History, Geography and applied problems in Mathematics, particularly as the content of these courses related to shop operations.

TRANSFER OF THE PRE-VOCATIONAL PROGRAM

Because of the number of students enrolled in the pre-vocational program at Victoria School, the School Board debated the merits of building a new school to accommodate increasing numbers of students who wished to

take pre-vocational education. The estimate for a new school which would accommodate 480 students was approximately \$225,000.00. The withdrawal of financial support by the Federal government caused the School Management Committee to recommend a temporary transfer of all pre-vocational equipment and personnel from Victoria to Western Canada High School. On a motion by Mr. Spooner the pre-vocational school was transferred from Victoria School to Western Canada High School and shop courses were offered in the technical shops of Ogden School. The pre-vocational school was under the administration of the principal of the technical high school.

THE PRE-VOCATIONAL SCHOOL IS DISBANDED

When the re-organized junior high school program became operational in the system in 1935 the basic need for pre-vocational schools no longer existed. From that time on the students who were to attend Western Canada High School were absorbed into regular junior high school classes and the pre-vocational school was disbanded. (Daniels, 1954, pp.169-171)

This antecedent of vocational education was looked upon by some segments of the central administration and of society as the poor relation of the system. However, one major advantage that accrued from this experience was that employers developed a greater appreciation of what vocational education could do for industry and its future employees by providing the latter with entry level skills.

FEDERAL FINANCIAL SUPPORT FOR TECHNICAL EDUCATION WANES

Federal support for technical education began to wane in 1929. Local promotion for continuance of federal support to this form of education began to appear with the 21st February issue of the Calgary Herald. The writer of that article indicated that the status of technical education had been improved because of the federal financial support that was received and that technical education expanded at a rate that was considered remarkable.

According to this writer, prior to technical education the number of youth from the lower to the higher grades in the public schools constantly dwindled which had a ripple effect on the number of students who continued on to high school and then to university. The greater majority of these students dropped out of school in the public school stage of their education. Those who quit school, went into the business world inadequately prepared. Others were bored by the studies to which they were compelled to devote their time. Others left school because they felt that they had reached the end of their school interests or the limit of their school capacities, while other pupils left school at the earliest opportunity because through some conspicuous lack of character, ability, willingness to work or readiness to conform to school discipline, they failed to make good progress in their school life.

The most serious problem faced by boys or girls who left school early was that of securing steady and congenial employment. Many pupils who left school were either 15, 16 or 17 years of age and were from the upper grades of the elementary school or the first year of high school.

ADULT TRAINING BEGINS

The Calgary Public School Board entered the field of vocational education for adults in 1911 when it organized the first night classes to educate and upgrade adults who were employed in the world of work.

However, it was not until 1916 when returned service personnel who were convalescing at the Ogden Convalescent Home were permitted to attend typing and shorthand classes at Victoria School. This quasi-business education program continued until 1930. At that time classes were moved from Victoria School to a four room building that was located on the school grounds of Western Canada High School. (Slate Pencil to Instant Ink, 1975, p.39)

CHAPTER III

FEDERAL INVOLVEMENT IN TECHNICAL VOCATIONAL EDUCATION THROUGH LEGISLATION

INTRODUCTION

A portion of the content of Chapter II reported research investigations that were either historical or descriptive studies that had some relationship to the current study. Also included in the content of that chapter was an overview of how the Calgary Public School Board was formed and the three early high schools of the system. A major portion of the previous chapter was devoted to describing the establishment and eventual disbandment of the pre-vocational program of study at Victoria School.

This chapter will begin by showing that the British North America Act specifically places the responsibility for education on the provinces. The influence that the MacDonald Training Plan had on vocational education will be presented in a section of this chapter. Recommendations made by the Royal Commission on Industrial Training and Technical Education and the influence that these recommendations had on early funding legislation of the Federal government is included in a section of the chapter.

Most of the content of this chapter will be devoted to an overview of the numerous acts that were enacted by the Federal government to provide funds in support of both post-secondary technical education and secondary school vocational education.

Canada as a nation is comprised of an amalgam of individual people who collectively represent each of the municipal and provincial levels of government. The establishment of schools in Canada prior to Confederation resulted from the various communities of settlers demanding schools which were public and practical. Settlers from New England and Scotland placed their demands alongside the demands of New France settlers in Canada East, resulting in the development of a public system generally, supplemented by a

number of schools and colleges administered by Roman Catholic orders.
(Munroe, 1974, p.2)

Thus, by the time of Confederation and The British North America Act (B.N.A. Act) of 1867, the sections of the Act dealing with education were the result of public pressure of that era. The B.N.A. Act attempted to legalize all aspects of education without altering the provincial educational structures or segregated sections of educational planning which were operational at that time. In effect, the application to education by Section 93 of the B.N.A. Act reflected the various pockets of educational growth in the provinces and attempted to legalize their development to that date.

EDUCATION - BRITISH NORTH AMERICA ACT

Section 93 of the British North America (B.N.A.) Act 1867, the predecessor of Canada's constitution, specifically states that the jurisdiction of education is assigned to the provinces. In dealing with the aspects of legislation respecting education within the provinces, Section 93 of the B.N.A. Act states "In and for each province the Legislature may exclusively make laws in relation to education subject and according to the following provisions" (Revised Statutes of Canada 1970, No. 5, p.8).

The rights of dissident groups in education were protected under terms of the B.N.A. Act. These rights were extended to Alberta when it joined Confederation in 1905. The need for a separate school system for dissident as well as non-dissident groups was already apparent. New settlers from the Eastern provinces demanded schools and their right to operate them. Large numbers of immigrants from Europe with different languages, religions, and traditions justified the need for consideration of minority rights in education. (Munroe, 1974, p.148)

Clause 2 of Section 93 of the B.N.A. Act makes specific reference to the establishment of schools for dissident groups:

2. All the powers, privileges and duties at the Union by law conferred and imposed in Upper Canada on the separate schools and school trustees of the Queen's Roman Catholic subjects shall be and the same are hereby extended to the dissident schools of the Queen's Protestant and Roman Catholic subjects in Quebec. (Revised Statutes of Canada, 1970, #5, p.28)

Section 93 does provide some means of appeal by the provinces to higher authority (Governor-General-In-Council) if discrimination appeared to occur in education on behalf of any minority group in a particular province. Further, clause 4 of Section 93 states that if any provincial law requisite to execution of the Act is not forthcoming, then after the appeal to the higher authority, if the Governor-General-In-Council feels the law should be enacted, the Parliament of Canada is authorized to make remedial laws as far as the circumstances of each case may require. (Revised Statutes of Canada, 1970, No.5, p.28)

From the time of Confederation it was apparent that, although education was established as a responsibility of the provinces, ground work had been legalized in the Act whereby a watchdog situation could be initiated on the part of the Federal government if education became discriminatory to anyone group of citizens.

GENESIS OF VOCATIONAL EDUCATION

An upswing in interest in technical and vocational education occurred at the turn of the century (1900). Boards of trade, chambers of commerce, labour organizations, women's groups, etc., made representations to both provincial and federal governments regarding the increasing need for an educational structure that would provide students with a skill base that they could use in the world of work. The first tangible result appeared in 1900 when Sir William MacDonald (tobacconist-philanthropist) was induced by Dr. James Robertson to spend \$1,500,000 over a three year period on the extension of manual training in Canada's public schools. This plan became known as The MacDonald Manual Training Plan (1900-1903) or the MacDonald Plan.

THE McDONALD PLAN, ROBERTSON'S INVOLVEMENT

Dr. Robertson structured the Plan when he was Commissioner for Agriculture and while he was travelling in the Eastern United States and Great Britain. This Plan called for the introduction of manual training into the public schools of Canada and was based largely upon information found in the report of the Vice Regal Commission in Ireland under the Board of National Education (1898). (Robertson, 1901, pp.528-530)

This Vice Regal Commission was instructed to determine the extent and form of manual and practical instruction that could be applied in the educational system of the primary schools of Ireland. The Commission submitted its report on 25 June, 1898 following visits to manual training schools in England, Ireland, Scotland, Sweden, Denmark, Germany, France, Holland and Switzerland. Of particular interest to Robertson was the portion of the report that dealt with manual training in Ireland because of the success of the program in that country. Contents of the Report indicated that improvements in agriculture and industries through manual training programs were believed to have appreciably reduced emigration from Ireland.

Robertson accepted the Report of the Commission and maintained he was indebted to the Commission because he had access to the Report. His plan was to establish manual training in at least one public school in each Canadian province for a period of three years. Monies from the MacDonald Fund provided for salaries, equipment, upgrading and costs of instruction as well as costs of training of teachers. Buildings were the responsibility of contracting boards. (Chalmers 1967, p.204)

Locations were selected in centres from which the movement could spread most rapidly and where most students could benefit. Calgary and adjacent Nose Creek was selected as the site in Alberta. Manual training at this site involved learning activities that centred around woodwork. In some centers where the MacDonald Plan operated, household science was also included as part of the Plan. Later, consolidated schools complete with

school gardens, domestic science and manual training rooms were an outgrowth of this Plan.

The Plan was funded for a three year period (1900-1903), after which the provinces and school districts were the recipients of all materials and equipment, with the understanding that funding thereafter became the responsibility of the cooperating province and school district. In the centres where the MacDonald experiment was conducted it was considered a success.

In 1902 the Calgary School Board passed the following resolution which was testimony of the experiment's success:

Resolved that after almost two years' attendance of our pupils at manual training classes which has fully confirmed our opinion of the very great benefit to be derived from such training, we strongly recommend that the subject (provisional course) be placed on the school program of studies and that the curriculum be so modified as to allow time for the teaching of it. (Northwest Territories, Department of Education, Annual Report Regina, 1903, p.52)

THE ROYAL COMMISSION ON INDUSTRIAL TRAINING AND TECHNICAL EDUCATION

As a result of the success of the MacDonald Plan, both the provincial and federal governments began to take a serious interest in technical education. Extensive studies were undertaken and in 1910 the Canadian government with approval of the provincial premiers, established a Royal Commission to inquire into technical education in Canada and make comparisons with systems in other selected foreign countries. This Commission was called the Royal Commission on Industrial Training and Technical Education, and was chaired by Dr. James Robertson. The Commission took three years to establish its findings and submitted its final report in 1913. No action was taken on the Report because of the outbreak of World War I a year later. (Glendenning, 1968, p.4)

RECOMMENDATIONS OF THE ROYAL COMMISSION

However, several recommendations in the Report of the Commission had an effect on the structure and finance of technical and vocational education in Canada. The Commission recommended in its Report that occupational training both for youth in school and adults in the labour force should be under provincial control and regulation, and that financial support for occupational training should come from a combination of sources to include individuals, local authorities, provincial governments and the Dominion Government. (Glendenning, 1968, p.5)

The Commission in its Report, in addition to establishing guidelines for technical education, also recommended that the Federal government allocate a sum of \$350,000 per year to be divided among the provinces. This sum of money was to be allocated on the basis of population at the last preceeding census. Grants were for the promotion and support of drawing, manual training and nature study and were not to exceed 75 percent of provincial expenditures for the previous fiscal year. These manual training programs were to be provided in elementary grades for a period of ten years. To be eligible for a grant, an annual report certified by the Chief Education Officer of the province concerned would have to be forwarded to Ottawa. Grant money was to be used to provide educational opportunities for those people who were preparing for industrial, agricultural and house keeping occupations as well as workers who were already engaged in these occupations. As far as possible these programs were to be added to existing systems, utilizing buildings, teaching staff and equipment already in place. (Young & Machinski, 1972, p.10)

The Commission also recommended that a sum of \$3,000,000 per year be made available to the provinces to encourage the development and implementation of vocational education programs. Both of the grants recommended by the Commission were conditional grants. Under the latter grant, provinces could only use their funds for teachers salaries, equipment, scholarships, research etc., but not for buildings, furniture or supplies. (Glendenning, 1968, p.7)

Settlers in the Northwest Territories from Ontario and the Maritimes pressured the territorial and Federal government for improvement in agriculture and education. These settlers looked back to the Eastern provinces for educators and politicians to fill the void that existed in the Territories.

During the period that the Royal Commission on Industrial Training and Technical Education was in existence, the Agricultural Instruction Act materialized. This Act was the direct result of a campaign promise that was made by the Conservative party of Robert Borden.

INFLUENCE OF ONTARIO ON TECHNICAL EDUCATION

Adequate financial resources in Ontario placed that province in a more advantageous position than the other provinces as far as education was concerned. As early as 1897 this province enacted legislation that permitted local school boards to establish technical schools or to change existing high schools to technical schools. (Glendenning, 1968, p.49)

The provincial government had either been unable or unwilling to provide adequate financial support to this program so labour and business management shifted their pressures onto the Federal government to provide funds for technical education between 1901 and 1911. Advocates of the expansion of technical education were becoming increasingly strong in the province because of the rapid growth of the industrial base of the province which resulted in a shortage of skilled workers, to the extent that the Canadian Manufacturers Association endorsed the idea of importing skilled workers from countries with better training facilities. Apprenticeship training was inadequate to cope with the numbers that were required. (Fluxgold, 1972, p.17)

The government of Ontario appointed John Seath, a high school inspector, to investigate conditions in industry and to report and provide recommendations to the government for the improvement of standards for training technical workers.

Seath's Report Education for Industrial Purposes (1910) which included a detailed plan for technical education, was adopted by the provincial government and many of its recommendations were incorporated into the Industrial Education Act of 1911. Glendenning (1960) points out in his Review of Federal Legislation Relating to Technical and Vocational Education in Canada that it was because of its' Industrial Education Act that Ontario was in the best position of all provinces to take full advantage of federal financial assistance when it became available. (p.3) To illustrate, between 1919 and 1929 Ontario received \$3,178,604 in grants from the Federal government to support technical education while Alberta received \$656,740.

The development of technical education in Ontario enabled it to assume a leadership role by providing technical expertise, teachers and administrators to other provinces as they developed their programs in technical education.

AGRICULTURAL INSTRUCTION ACTS 1912 AND 1913

Because agriculture held a position of prominence in the economic and political life of Canada in the early decades of this century, the first federal enactments to provide financial support for vocational education were directed specifically toward agricultural training. The Agricultural Instruction Act of 1912, provided the sum of \$500,000 for one year to assist the provinces with training in this field. The 1912 Act was followed by The Agricultural Instruction Act of 1913 which made a sum of \$1,000,000 available to the provinces each year over the ten year life of the Act. (Munroe, 1974, p.7)

These two Acts provided financial assistance for construction of such schools as the Olds Agricultural School and the Vermilion Agricultural School. Financial aid to agricultural instruction totalled \$11,399,882 over the twelve year period 1912 to 1924. (Chalmers, 1967, p.205)

The bulk of the funds that Alberta received from the Federal government under the terms of the 1913 Act were used to further develop and expand the Provincial Institute of Technology and Art in Calgary. (Chalmers, 1967, p.209)

These Agricultural Instruction Acts were the first major pieces of federal legislation to allocate funds to support vocational education and therefore had no Canadian precedent on which they could be modelled.

ESTABLISHMENT OF THE PROVINCIAL INSTITUTE OF TECHNOLOGY AND ART

The formation of the Provincial Institute of Technology emerged because of a feud between Calgary and Edmonton which developed when Edmonton was selected as the province's capital city. In turn, the promise of Calgary becoming the seat of the provincial university was small but only temporary consolation. In 1908 the University of Alberta was officially located in Strathcona just North of Edmonton. Calgarians, protesting this allegedly unfair treatment formed the Calgary College in 1912. The continuous protest resulted in a Provincial Royal Commission being appointed to inquire into the operation of the college. This Commission recommended the founding of an Institute of Technology and Art in Calgary. The recommendation was not very well received in Calgary because the institute was not granted degree granting powers. However, the returning veterans from World War I created a need for rehabilitation. Under a wartime inspired forced draft, Calgary authorities approved transfer of Colonel Walker School, in February 1916, rent free for four years to provide training for rehabilitation of returning service personnel. Meanwhile the provincial government undertook to provide a new permanent building by 1920. (Chalmers, 1967, p.206)

Four years after the war, the Institute moved to permanent quarters, a 110 acre campus on Calgary's North Hill South of 16th Avenue and between 10th Street West and 14th Street West, from which time, programs of study, enrollments and buildings rapidly increased.

Alberta used a major portion of the funds that it received under the Technical Education Act of 1919 to assist in putting the Provincial Institute of Technology and Art in place in the provincial structure of education.

Without financial assistance given by the Federal government to the province, the Institute of Technology and Art could not have attained the status and extensive usefulness to the province that it had in the 1920's. Without that financial assistance, technical education throughout the province would be far below its present standard and scope.

The Southern Institute of Technology and Art received extensive revitalization from funds that were received by the province under terms of the Technical and Vocational Training Assistance Agreement that was signed by Alberta and Ottawa in 1961. This Agreement also provided funds for the establishment of the provinces' second institute of technology that was located in Edmonton. This institute opened on 1 October, 1962 and was named the Northern Alberta Institute of Technology (N.A.I.T.) and the Southern Institute of Technology was renamed the Southern Alberta Institute of Technology (S.A.I.T.)

For an indepth analysis of the development of the Southern Alberta Institute of Technology the reader is referred to the thesis by Simon the History of the Alberta Provincial Institute of Technology and Arts 1962.

THE TECHNICAL EDUCATION ACT - 1919

The duration of the Technical Education Act was from 1919 to 1929 - a period of ten years. Under terms of this Act provinces which signed an agreement with Ottawa were required to match federal funds on a 50/50 cost sharing basis. Thus the cost-sharing principle to support vocational education was established. Funds that were made available to the provinces under this Act were not to be used for manual training, but for the purchase of land, buildings, equipment and furniture, administration, teachers' salaries, teacher training, and maintenance of plants and equipment. The

Act excluded technical education for persons under the age of 14 and courses at the college level. Also excluded were occupational instruction in religious or privately owned schools and all subjects supported by the Agricultural Instruction Act. (Statutes of Canada, 1919, Chapter 73, pp.665-666)

The Technical Education Act of 1919 provided \$10,000,000 for the promotion and assistance of technical education in Canada commencing with the year ending 31 March, 1920, during which period \$700,000 was to be available. The year ending 31 March, 1921, \$800,000 was made available. The year ending 31 March, 1922, the amount was increased to \$900,000. The year ending 31 March, 1923, the amount was increased to \$1,000,000. From the year ending 31 March, 1924, the amount was increased to \$1,100,000 and was to remain fixed to and including the year ending 31 March, 1929. Ten thousand dollars was a base figure to be provided to each province. The remaining money was to be divided in proportion to the population of each province at the last federal decennial census. (Statutes of Canada, 1919, Chapter 73, pp.665-666)

The Federal Department of Labour was given the responsibility for administering the Act and was to maintain a low-key role in its administration. This Department was to accept the work done in each province and to cooperate with provincial officials in further developing the system of education that was already established. It was to offer all services and advice, but only when requested by the provinces. Federal officials had the right to examine accommodation, textbooks, equipment, qualifications of teachers, courses of study and discipline at any time. Some Department of Labour stipulations insisted on the provinces following prescribed guidelines that included:

1. A detailed quarterly financial statement of expenditures.
 2. An annual attendance statement covering enrollments, teachers and attendance.
 3. Plans and specifications on all new buildings and extensions.
 4. Details of new programs and estimated enrollments.
 5. Other information as required by the Department of Labour.
- (Glendenning, 1968, pp.14-18)

Expenses incurred by the provinces under terms of the Act were claimed after the money was spent.

The practice of some provinces to include all manual training, domestic science and practical arts work as part of the vocational education program, had the effect of misleading the public regarding the nature and purpose of vocational education and made it financially impossible to adequately develop this form of education which the federal grants intended to promote. It was recognized by the federal director that each province had its own peculiar educational problems and that no fixed regulations could be devised that were acceptable to all provinces, but the director was convinced that the only possible way in which to develop vocational education in Canada was to insist that the provinces meet the minimum requirements before grants were paid.

During the ten year period of the Act, national enrollments in vocational education courses increased from 60,456 to 121,252 students. Of the \$10,000,000 made available by the Act, the amount paid to the provinces totalled \$7,964,600, of which Alberta received \$656,740.00; Ontario \$3,178,604.00, and Manitoba \$191,402.00. (Young & Machinski, 1972, p.7) Ontario was the only province that used up its federal grant. Other provinces were able to carry forward their unused portion. For instance, Manitoba did not use up its entire allotment until 1948.

The Federal government rationalized its involvement in technical and vocational education from the point of view that such involvement would help develop a pool of skilled manpower to meet the needs of Canadian industry and the fact that the provision of adequate training programs and facilities by local and provincial authorities was extremely expensive.

Although the Federal government would contribute 50% of provincial expenditures for technical education, some of the provinces found it difficult to justify expenditures for technical and vocational education during a period of re-establishment. The lack of provincial commitment may be attributed to the following: an insufficient population base to warrant

the demands for implementing technical or vocational education in their educational delivery system or an industrial base which was not diversified enough to support the graduates from these programs of study. Appendix C page 286 includes a table which shows the funds that each province received under this Act for the 1926-27 fiscal year.

It was during this period that both vocational education and pre-vocational education classes were introduced in the secondary schools in Calgary and Edmonton.

VOCATIONAL EDUCATION ACT - 1931

The Vocational Education Act became an official Act of the Federal government when it was approved by Parliament 3 August, 1931. Under terms of the Act its' life span was to be for a fifteen year period (1931-1946) and \$750,000 per year was to be appropriated in support of vocational education. From this amount, provincial allocations were based on a proportion of the provincial population in relation to the population of Canada.

Section 3 of this Act prescribes the fifteen year life of the Act as well as the amount of money to be allocated each year. This particular section of the Act reads:

A sum is hereby appropriated from the Consolidated Revenue Fund of Canada of seven hundred and fifty thousand dollars per annum for a period of fifteen years, from which payments may be made annually to the government of any province for the purpose of promoting and assisting vocational education. (Statutes of Canada 1920-30, Chapter 59, p.431)

Section 4.2 of the Act details the population factor in this way:

The total payments made to the government of any province in any one year shall not exceed a proportion of the yearly appropriation mentioned in Section 3 of this Act, corresponding to the proportion which the population of the province bears to the population of Canada as determined by the latest federal decennial census. (Statutes of Canada 1920-30, Chapter 59, p.431)

This Act was never proclaimed, due in part to the depression. Therefore no funds were allocated or distributed to the provinces. No further federal legislation that provided financial support to vocational education was enacted until 1942 when the Vocational Training Co-Ordination Act was proclaimed and repealed the dormant Vocational Education Act - 1931.

THE YOUTH TRAINING COMMITTEE OF
THE NATIONAL EMPLOYMENT COMMISSION

The great depression of 1931 to 1938 in Canada had a disastrous effect on the Canadian economy as well as on its industry and created untold unemployment throughout the country. As a result of the depression, funds for technical and vocational education ceased to exist.

Because of high unemployment rates among youth, intensive studies on training and work schemes for unemployed youth were undertaken by the Youth Training Committee of the National Employment Commission. As a result of these studies various recommendations were made to alleviate unemployment among the youth. Among these were programs of training schemes and various work projects. Programs of training included aviation, mining, forestry and agriculture, work projects, park beautification, main park entrances, ranger lookout towers and trails, afforestation and reforestation, and mining and agricultural projects. The Committee also recommended increased consideration be given to areas of career counselling and placement services. (Glendenning 1968, p.27)

One program that materialized on the prairie was for agriculture which called for the winter employment for unemployed young farm workers. This program was designed to keep these individuals on the farm and away from the cities where there was a lack of employment. Salaries for these workers were split 50-50 between the farmer and the Federal government who also paid a monthly bonus to those workers who stayed on the farm for a minimum four months. Under this arrangement the farmer paid the worker \$5 per month and the Federal government paid an additional \$5 per month with a \$2.50 per month bonus for those who stayed the minimum of four months.

When the plan was implemented during the winter of 1937-38, it became apparent that the unemployment situation was acute and the attempt of the government to alleviate the unemployment problem among rural youth by retarding migration from a rural to an urban setting was less than acceptable. In its long range aims this particular program was not too successful because it helped drive young people off the farms and into forestry or industry which accelerated the need for more technical training for the youth of the country.

THE UNEMPLOYMENT AND AGRICULTURAL ASSISTANCE ACT - 1937

The Unemployment and Agricultural Assistance Act was proclaimed in 1937 to provide assistance in the training of the unemployed between the ages of 18 and 30 who were registered with the Employment Service of Canada and who were in needy circumstances. Grants for operation of projects in the provinces were provided by the Governor-General-In-Council, with the proviso that the province provide a matching amount of money.

Under this Act \$1,000,000 per year was to be divided between the provinces according to their population at the last census. In 1939 the Act was renamed the Youth Training Act with the allotment increased to \$1,500,000 per year. The Act provided for instruction in agriculture, mining, forestry, etc., as well as trade classes in welding, woodworking, radio, motor mechanics, machine operations, electricity, blacksmithing and sheet metal. Most of the funds acquired by Alberta were used to further upgrade the Southern Institute of Technology and Art. (Chalmers, 1967, p.210)

Alberta provided apprenticeship courses combining on the job training with formal training in the classrooms and shops. Recreation projects and physical training courses were also instituted by the Alberta government. Variances in the forms of implementation allowed inclusion of student allowances, travelling expenses, teachers and guidance counsellor's salaries, compensation for accidents, medical aid, provision of equipment and supplies, printing and advertising, organized recreation, physical

education and training wages in mining and forestry projects for payment under this plan. (Statutes of Canada 1939, Parts I & II, pp.169-172)

The Unemployment and Agricultural Assistance Act had an expiry date of 1 March, 1940.

THE YOUTH TRAINING ACT - 1939

Federal involvement in training Canada's youth gained momentum in 1939 when the Youth Training Act was given Royal Assent. Under this Act the Federal government made available to the provinces \$1,500,000 each year for a three year period without any financial commitment of their part. Conditions for approval by the Federal government for disbursing grants to the provinces were similar to previous regulations under the Unemployment and Agricultural Assistance Act.

A related program of the Federal government to alleviate unemployment among youth was the National Forestry Program (1939). This program was instituted because federal officials felt that it was a natural area where much could be accomplished with the unemployed through forestry technology. Camps of approximately 50 young men were established in the National Parks where trainees received formal classroom training in first aid courses, tree disease identification, forest fire fighting methods, park beautification, and primary survey procedures.

In some instances individuals selected to undergo this type of training came from farms but most came from adjacent cities where they had little exposure to the forest environment. Many of these trainees were reservists in the armed forces. Each trainee was provided with a work uniform for a nominal cost of ten dollars. Rates of pay were \$1 per day plus room and board. The program was phased out after only one season of operation.

In September 1940 the Federal Government modified the Youth Training Act to include the Wartime Emergency Training Program (W.E.T.P.) which was extended to meet the demands of the total war effort.

World War II created a crisis situation for technical training in Canada. The acute shortage of qualified air force technicians for the war effort required crash courses for untrained personnel in order to fill these shortages caused by the war effort. To fill these shortages, courses were provided where specific repetitive work procedures for the physical servicing of wartime equipment was taught. Many service personnel received just enough training to be considered productive, before they were assigned to a unit as support staff. Any inadequacies in their technical training were overcome by on-the-job-training.

The minimum education standard for candidates to qualify for basic aircrew training was senior matriculation. In January 1943, because of the critical need for aircrew, this standard was lowered to junior matriculation, allowing some technical trades in ground crew to remuster to aircrew. Some of the candidates accepted for this program were sent directly to Initial Training Schools (I.T.S.) for their aircrew theory courses; others with educational deficiencies were sent to W.E.T.P. schools to raise their educational qualifications before they were assigned to I.T.S. for further training. Those who failed a course at any time were returned to their trade.

W.E.T.P. schools were also used to provide technical training courses for workers in Canada's wartime industries. This program was terminated March 1946.

At the cessation of hostilities, Canada found itself with a large technically trained work force that had been required for wartime production. These workers combined with returning service personnel would demand jobs and further technical training in order for them to fit into a postwar society.

THE VOCATIONAL TRAINING CO-ORDINATION ACT - 1942

The Vocational Training Co-Ordination Act came into force on 1 April, 1942 when the Vocational Education Act of 1931 was repealed. This Act

provided financial assistance to projects that were initiated under The Youth Training Act of 1939. Under terms of the Act, training programs in agriculture, forestry, mining, fishing, construction, manufacturing, commerce or in any other primary or secondary industry were fundable.

The Minister of Labour was to administer the Act and was to report to Parliament via an annual report on the work done, monies expended and obligations contracted under the Act. This report was to be submitted no later than sixty days after the termination of each fiscal year.

Vocational training is defined in this Act as:

Any form of instruction, the purpose of which is to fit any person for gainful employment or to increase his skill or efficiency therein, and, without restricting the generality of the foregoing, includes instruction to fit any person for employment in agriculture, forestry, mining, fishing, construction, manufacturing, commerce or in any other primary or secondary industry in Canada. (paragraph 2, sub-section C)

The Vocational Training Co-Ordinating Act made every attempt to keep pace with the times. Provisions of the Act called for a continuation of training support to anyone who could "contribute to the efficient prosecution of the war, whether in industry or in the armed forces" (Section 3 (1)). Provision was also made in the Act for former members of His Majesty's Canadian Forces, upon approval to acquire training designed to fit veterans into a postwar society. Specifically mentioned in Section 4 (e) was reference to the development and continuation of vocational training on a level equivalent to the secondary school level of education.

When Canada declared war on Germany during the Second World War new arrangements for training civilian war production workers as well as military personnel became necessary. Much of the training that these individuals received became possible under the Vocational Training Co-Ordination Act which was repealed in 1960 when it was replaced by the Technical and Vocational Training Assistance (T.V.T.A.) Act.

In 1944 the first of a series of Apprenticeship Training Agreements was signed between Ottawa and Alberta. This Agreement could be considered as a conditional agreement because of its cost sharing arrangement between the signatories. Under this Agreement the cost of apprenticeship training was on a 50/50 cost sharing basis. The Agreement was in effect for a ten-year period and was renewed upon expiration with all provinces except Quebec.

THE VOCATIONAL SCHOOLS ASSISTANCE AGREEMENT - 1945

Under terms of the Vocational Schools Assistance Agreement which was proclaimed in 1945, the Act was to have a life span of twelve years and was to provide financial assistance to the provinces for vocational training at the secondary school level, but did not necessarily limit this training to that level of education. The money involved in the Agreement with participating provinces was allocated in the following manner:

- (1) Outright annual grants of \$10,000 for each province during the life of the Agreement.
- (2) An annual grant of \$1,910,000 for a ten year period was to be divided among the provinces in proportion to the populations of 15 to 19 year olds at that time. This portion was to be matched by the province.
- (3) The sum of \$10,000,000 was made available for capital expenditures to be divided among the provinces in proportion to the population of 15 to 19 year olds at that time. This portion was to be matched by the province.
- (4) Manual training, university courses and other prevocational courses were excluded but post secondary education courses were considered shareable. Alberta acquired an annual allotment of \$1,689,390 during the period 1945-1957. Capital assistance amounted to \$700,200. (Department of Labour - Annual Report, 1946, p.6)

Shareable programs under this Agreement provided financial relief to some school boards in the province because they were afforded the opportunity to plan either extensions to their existing facilities or to construct new buildings. In order to receive financial assistance for

vocational education schools and classes at the secondary school level, students were to spend at least 50 percent of their time in shops, drafting and related subjects. (Department of Labour Annual Report, 1946, p.6) Immediate implementation of these plans and ideas were prohibited because of an acute shortage of building materials and manufactured goods that existed during the post-war period. These items were only available in minute quantities, because industry was retooling to meet the needs of society. Another commodity that was in short supply during the postwar period was skilled labour.

Increased high school enrollments stressed the need for facilities to accommodate these students while administrators attempted to cope with the problem of a shortage of competently qualified teachers. In some instances teaching qualifications were lowered to accommodate the crises, while in others, students were bussed to large centres with satisfactory facilities. It was during this period that Edmonton instituted plans for building Victoria Composite High School. (Department of Labour Annual Report, 1946, pp.16-17)

THE VOCATIONAL AND TECHNICAL TRAINING AGREEMENT NO 2 - 1957

The Vocational and Technical Training Agreement No. 2 replaced the Vocational Schools Assistance Agreement in 1957. Under terms of Agreement No. 2 a sum of \$40,000,000 was made available for vocational and technical education for a period of five years - 1957-1962. Each of the provinces received an initial allotment of \$30,000 and the two territories received an allotment of \$20,000 each. The balance of the funds provided for under this Agreement were to be allocated to the participants on the basis of population in the province or territory in the 15 to 19 year age group. In order to receive these funds, the provinces were required to match the federal contribution which made this Agreement a conditional cost sharing Agreement. However, under this Agreement the conditions for contribution became more specific than under previous legislation. Conditions that the provinces had to meet were: that not more than 50% of the annual allotment could be used for buildings and equipment; that not more than 70% of the

annual allotment was available for the operational overhead of the vocational or composite high schools; that at least 10% of the annual allotment was available for advanced technical training or trade training; and that at least 2% was available for technical teacher training. (Young & Machinski 1972, p.32)

In 1950, the Vocational Correspondence Courses Agreement was signed between Ottawa and the provinces. Although this was a minor Agreement it did grant federal aid to a province to assist with expenditures incurred in the preparation and publication of vocational education correspondence courses. When federal and provincial authorities signed under the terms of this Agreement the costs of preparing and printing provincially designed correspondence courses were shared by the federal and provincial governments as long as the completed courses were made available to other provinces at no increase in cost.

This Agreement was extended throughout the life of the Technical and Vocational Training Assistance Act which terminated in 1967.

THE NEED FOR FEDERAL FUNDING OF VOCATIONAL AND TECHNICAL EDUCATION IS REALIZED

According to Grywalski (1973) from 1946 to 1956 the supply of skilled workers in the Canadian labour force increased by 280,000. Of this number 112,000 or 40% was supplied by net immigration. (p.662) In the late 1950's there was a slight recession in the Canadian economy which resulted in a decrease in the number of skilled immigrants coming into Canada. It was then that federal manpower planners realized that Canada could not meet her needs for technical personnel. In order to close the gap between supply and demand for skilled workers federal legislation was needed that would upgrade the educational qualifications as well as the skill background of the labour force.

In 1957 the Royal Commission on Canada's Economic Prospects reported that when Canada experienced economic expansion during the post-war periods

from 1947 to 1948; from 1950 to 1953; and from 1955 to 1956 requirements for skilled labor in this country had been filled largely through immigration of skilled tradesmen. This Commission also stated in its report that the nation could expect shortages of professional manpower until 1960 and after that time-frame it was anticipated supply and demand would come into balance. (pp.VIII-XIII)

The Commission cautioned that Canada could no longer rely on immigration as a source of manpower and the future needs would have to be met from within the country. The Royal Commission also pointed out that from 1960 to 1965 those young people in Canada from the ages 15 to 19 would increase the population by 300,000 from 1.4 million to 1.7 million. This indicated the necessity for increased educational facilities plus the necessity for some sort of specific training for each of these future wage earners. In 1957 the Liberal Government was replaced by the minority Conservative Government of J. G. Diefenbaker. Faced with an impending recession and rising unemployment, the new government dissolved Parliament and called for an election on 31 March, 1958. Receiving an unprecedented majority, the government proceeded to deal with the problem of unemployment.

THE NATIONAL EMPLOYMENT SERVICE SURVEY

In 1960 the Federal government took a hard look at a disturbing set of unemployment statistics which resulted from a cross country survey that was conducted by the National Employment Service (N.E.S.). The results of this survey revealed that of every ten persons listed on the country's unemployment roll, nine had not completed their high school. For one reason or another those people had joined the ranks of drop-outs during their latter school years. In its survey the N.E.S. found that it was extremely difficult to place workers in jobs who had less than a Grade X education. More workers with a higher education were needed. Many young men and women looking for jobs as industrial workers were not sufficiently qualified because of their limited education.

In the summary of its Report N.E.S. indicated that the best way for young people to protect themselves against periodic layoffs and job insecurity in business or industry was to get a good education, both in school and by trade training. (Calgary Herald, 10 December, 1960)

The unemployment situation according to Michael Starr, Federal Minister of Labour, reflected a failure of most high school graduates to enter a technological world with adequate preparation. Too many graduates were leaving high school before they achieved a level of training that was acceptable to business and industry. Limited by their school experiences, many young Canadian workers were at a marked disadvantage when they were compared with their immigrant counterparts.

As unemployment escalated during the winter of 1959-1960, the Liberal opposition used the phrase "Tory times are hard times" and indicated that idle young manpower would be better off attending technical or other institutions rather than be completely idle. (Government of Canada, House of Commons Debates, 1960-1961, Volume I, pp.584-585)

Deliberations that followed in Parliament, culminated in the birth of the federal-provincial vocational training program aimed at giving marketable skills to the unskilled. On 17 November, 1960 the Governor - General in the Speech from the Throne, declared the governments' intention of extending financial aid to the provincial governments for vocational training and the upgrading of persons already employed. (Government of Canada, House of Commons Debates, 1960-1961, Volume I, p.3)

On 25 November, 1960 the proposed legislation was introduced into the House of Commons by the Minister of Labour who indicated:

- (a) Present post-secondary technical training facilities were insufficient to meet future needs.
- (b) Immediate retraining or upgrading of the labour force was essential.
- (c) Unemployment was high, yet there was a need for highly trained workers.

- (d) Canada must learn to curtail its dependence on the immigration of skilled workers from other countries. (Government of Canada, House of Commons Debates, 1960-1961, Volume I, p.231)

TECHNICAL AND VOCATIONAL TRAINING

ASSISTANCE ACT - 1960

The Technical and Vocational Training Assistance Act received Royal Assent on 20 December, 1960, and was terminated in 1967 but was extended to 31 March, 1970. This omnibus Act grouped together all provincial activities that were related to vocational education including correspondence courses and the Apprenticeship Training Agreements that were entered into between Ottawa and the provinces. This Act was a conditional funding cost sharing Act because, according to its terms, the Federal government provided payments to the provinces in this way:

- (a) Seventy five percent of provincial expenditures for approved technical-vocational facilities which were completed by March 1963. Thereafter, until termination of the Bill, federal payments were fixed at fifty percent.
- (b) Seventy five percent of the cash incurred by provincial authorities in providing training of the unemployed.
- (c) Fifty percent of the provincial costs of approved technical or vocational training provided for persons who had left the regular school system.

There were nine different types of programs that were included in the Act that were shareable between the Federal government and the provincial governments among these were: Vocational High School Training Program (V.H.S.) Program 1; Technician Training Program (T) Program 2; Trade and other Occupational Training Program (T.O.) Program 3; Training Program in Co-operation with Industry (T.I.) Program 4; Program for Training of Unemployed (M) Program 5; Program for Training of the Disabled (R) Program 6; Program for the Training of Technical and Vocational Teachers (T.T.) Program 7; Training Program for Federal Departments and Agencies (G) Program 8; and Student Aid (S.A.) Program 9. (Bill C49, Technical and Vocational Training Agreement, 1961, pp.3-6)

Program 1 and Program 7 are of interest to this study because the former program is concerned with the Vocational High School Training Program where these courses would become an integral part of high school education, in which at least one-half of the school time was devoted to technical, commercial and other vocational subjects or courses designed to prepare students for entry into employment by developing occupational qualifications.

The latter program, Program 7, provided financial assistance on a 50-50 cost sharing basis between the province and the Federal government if the province would establish an approved program in teacher training for the vocational schools provided that the trainees had full occupational competence in the field in which they were to give instruction.

Both of these programs and their impact on vocational education in the Calgary Public School System, and the Vocational Education Teacher Preparation Program will be presented in chapters VII of this Report.

The following three groups of individuals were served by this legislation:

- (a) Youths still in school who intended to become technicians in the labour force upon leaving school and who could therefore benefit from courses devoted to occupational preparation and the related math-science programs made available. Industrial arts programs were excluded from this legislation.
- (b) Youths who had completed the secondary school program, but who desired some technical training prior to entering the labour market were included in the second group. An interest in math-science was required prior to enrollment in a program of training of 2,400 hours duration minimum which was designed to prepare students to enter the labour force as technicians.
- (c) Other forms of programs, which were designed to provide the necessary technical training to prepare adults who were already in the labour force to ~~improve~~ their productivity from a technical standpoint. Training might be full-time, part-time or taken at night school or on the job or any manner in which accommodation could be provided. (Bill C49 - Technical and Voational Training Agreement, pp.1-5)

The Annual Report of the Department of Education for 1962 states that "on 18 July, 1961, Alberta became a signatory to the Technical and Vocational Training Agreement" (p.91). This Agreement was retroactive to 1 April, 1961. For each program of the Agreement there was a schedule with a number of regulations that the province had to follow in order to receive federal funds.

BILL C49

Effective 1 April, 1961 an Agreement (Bill C49) between the provincial and federal governments provided for the Federal government to furnish 75% of the capital cost of building and equipping vocational education schools. Since, in Alberta the provincial government was contributing 90% of the total cost, the eventual distribution of these costs were:

federal government	67.5%
provincial government	22.5%
local government	<u>10.0%</u>
	100.0%

After 31 March, 1963 the Federal governments' contribution was reduced from 75% to 50% of the provincial contribution. The Federal government would pay for operating costs:

to provincially owned schools	50%
to locally owned schools	50% of the provincial
grants up to a total limit for Alberta of \$214,000,000.00.	

The intent of the Act according to Section 2 of Bill C49 was that "the province in consultation with the Federal government will develop, organize and carry out training programs for the development of skilled manpower" (Bill C49, p.2, Item2).

When the federal and provincial authorities signed the T.V.T.A. Agreement, they, in effect, cancelled the two previous agreements that Alberta had with Ottawa. The two agreements that were cancelled were: The Vocational and Technical Training Agreement No. 2 and; The Special Vocational Training Project Agreement. (Bill C49, p.9, Item 19)

MINISTERS OF EDUCATION REQUEST TIME EXTENSION

Provincial education ministers in a meeting with Labour Minister Starr, in Ottawa 21 January, 1963, requested that a four-year extension be made to the 75% federal contribution for capital expenditures that was to be reduced to 50% after 31 March, 1963. These ministers from 10 provinces argued that all provinces except Ontario were unprepared when the temporary 75-25 plan was introduced in March 1961. These ministers pointed out that some of their provinces lost time when they conducted surveys and made plans relative to vocational education. Ontario was the only province that immediately went ahead with a full-scale construction program. Because this province was able to take advantage of the Act it received \$186,700,000.00, or approximately 65 % of the federal contribution. The Ministers of Education argued that a four-year extension would permit the nine other provinces to get a more equitable share of federal funds that were available under the Act. (Calgary Herald, 15 February, 1963)

Labour Minister Starr announced on 14 February, 1962 that the program under which the Federal government would contribute 75% of the cost for new or expanded vocational education and technical schools was to be extended for an additional six months. After that date the federal-provincial program was to revert to a 50-50 cost sharing basis.

The T.V.T.A. Act was due to expire 31 March, 1967 but was later extended to 31 March, 1970. When this Act was repealed by the Adult Occupational Training Act of 1967 it spelled the end to federal financial assistance to secondary school vocational education.

CHAPTER IV
IMPLEMENTING THE T.V.T.A. ACT
IN ALBERTA

INTRODUCTION

The major portion of the content of the previous chapter comprised a brief overview of federal legislation from 1913 to 1960, which had implications for funding technical or vocational education in Canada. This type of funding was deemed essential in the alleviation of this country's skilled manpower shortages.

The Technical Vocational Training Assistance Act and its accompanying Agreement produced a growth factor in the province that was exponential as far as vocational education at the secondary school level was concerned. This Act also helped to democratize education in the province because it made available to the students, an alternate educational route in the structure of education in Alberta.

How this Act was implemented in Alberta at the provincial level to bring vocational education on stream, will be discussed in this chapter.

TRANSITION TO VOCATIONAL EDUCATION

When the T.V.T.A. Act was legislated in Canada, education became democratized because children of blue collar workers or those students who did not wish to take senior matriculation, were given the opportunity to continue their education instead of becoming early school leavers as they had done in the past.

When school boards in the province adopted the concept of vocational education it became possible for them to take the next logical step of diversifying their educational programs by adding vocational education to their educational structure.

Concern was expressed by some parents and school administrations regarding possible acceptance of the new trend in education in secondary schools. It was felt that the strong endorsement for this type of education which it had been given by the federal and the provincial government had aroused widespread interest in vocational education and that this interest would continue to grow as the program evolved. It was felt that the success of the new programs would be contingent upon local authorities. (Alberta Home and School News, 1962, pp.3-4)

Dr. Robert Warren, Superintendent of the Calgary Public Schools, took the position that everyone between the ages of 15 and 18 years was entitled to an education in accordance with his needs and capabilities and consistent with the needs and values of the society in which he existed. As a result of that position Dr. Warren favoured that a new plan for secondary education be established in the system. Because of his leadership the School Board was willing to change the educational structure of the system to include technical and vocational education.

To assist with the design of this new program, five basic committees were struck and each committee was given the responsibility to develop a specific route of the plan. Each committee was composed of teachers, parents and businessmen. In addition to these committees, a Steering Committee was formed to check the pace, direction and progress of the five other committees.

One of the committees was given the responsibility to examine the school program for girls, primarily the home economics course.

Another committee was to establish a program for talented students that would provide material which would challenge them from Grade VII and that would lead to matriculation in 6 years with the possibility of advanced university standing. This program was the Enriched Matriculation Route and would serve 2% of the high school population.

A Three Year Matriculation Route was drafted by another committee. This route would be limited to those students who were expected to succeed in this route. It was anticipated that 30% of students attending high school would elect this route.

The third route that one of the committees examined and developed was the Four Year Matriculation Route which was for students who would take as a major area the academic subjects, with a strong minor in either a technical subject, a commercial subject, or in one of the fine arts. The intent of this route was to provide students who might fail matriculation, with enough high school credits to permit them to enter an institute of technology and still be eligible for 100 high school credits in three years. It was estimated that approximately 40% of the high school population would enroll in this program.

A fourth route that was developed was the Three Year Vocational Program (Senior Vocational Program) which was for students who would be promoted to Grade X with the requisite abilities but for one reason or another would likely drop out of school before attaining a high school diploma. To this Route were added technical subjects, because the committee felt that because of the interest level that these subjects had, they would retain students in school until they could acquire their high school diploma. This particular program was designed for 20% of the high school population.

The fifth program that another committee dealt with was the Pre - vocational Program (Junior-Academic-Vocational Program) for students that would start at the Grade VII level and normally terminate at the end of Grade IX. This Program was designed to meet the needs of the 8 - 10 % of the student population who had a background of failure, frustration and low grades in school.

When the committees had finished their work and drafted a program acceptable to trustees and the Department of Education, members were requested to continue meeting for purposes of evaluating the programs that were designed and which became known as "Calgary's Vocational-Matriculation Program for High Schools".

Harold Panabaker a former assistant superintendent, was assigned the responsibility of acting as intermediary between the school board, teachers, principal, parents and industry and for selling the "new plan" for secondary education to all citizen groups.

On 31 May, 1962 the programs of this new plan were presented to the superintendents of schools from across Canada by Dr. Warren at Banff. In his presentation, Dr. Warren pointed out the "new plan" would provide for two major groups of students who were not adequately served by previous programs that were offered in high schools. These two groups of students represented approximately 60% of the high school population. Forty percent of these students would not attend university but needed a broad education to form the backbone of the work force. Under the new plan, these students could enroll in the Four Year Matriculation Route. Students who were incapable of mastering the academic program, but had to be prepared to go directly to employment following their high school education, could enroll in the Three Year Vocational Program (Senior Vocational Program). Students in this group represented 20% of the high school population. (Calgary Herald, 31 May, 1962)

There was some concern among educators in Alberta when vocational education was first introduced into the schools of the province that a pseudo form of educational apartheid would develop because the structure of education had been changed to include vocational education. Lay groups were also concerned that educational apartheid might develop because vocational education had not been adequately researched. Members of this group were also of the opinion that without the results of this research vocational education would just flounder.

The August 1963 Curriculum Newsletter of the Department of Education was entirely devoted to the topic of "Vocational Education in Alberta Schools". The series of brief articles in this newsletter were written by R. H. Cunningham and J. W. Chalmers who presented the following three reasons why the new federal legislation to provide federal aid to vocational education had been enacted. The reasons that these authors gave were:

1. The need for many more skilled workers to enable Canada to retain and improve her position in the industrial world.
2. The lack of adequate training facilities to develop the required manpower.
3. The need to lessen the number of drop-outs from our schools by offering educational opportunities to qualify our youth for employment in this rapidly changing world of work. (p.1)

THE IMPACT OF THE T.V.T.A. ACT ON VOCATIONAL EDUCATION IN ALBERTA

Across Canada vocational education schools sprung up like mushrooms in the wake of the Federal government's undertaking to pay a substantial portion of the construction cost of schools built by the 31 March, 1967 deadline. Provincial and local education authorities across the country were quick to take up the challenge with the result that, in three years (1960-1963) 449 new vocational education schools or additions had been started; more than doubling the capacity of these establishments in Canada. The cost of constructing and equipping these facilities was in excess of \$435,000,000.00.

Alberta was one of the first provinces to take advantage of this opportunity. An article that appeared in the 17 November, 1961 issue of The Calgary Herald reported that Calgary public plus nine other school districts in the province had submitted plans to the provincial government for some \$17,300,000.00 worth of school construction that would house vocational education programs of study. This 17.3 million dollar figure did not include an estimated \$2,500,000.00 for equipment costs for the ten projects. On two separate projects the Calgary School Board spent \$3,374,000 of the 17.3 million dollars. Other School Districts that were identified in this article included:

Calgary Separate	\$ 600,000.00
Camrose	\$ 532,000.00
Edmonton (2)	\$4,167,000.00
High Prairie	\$ 903,000.00
Jasper Place	\$1,186,000.00
Lethbridge	\$ 590,000.00
Medicine Hat	\$2,195,000.00
Red Deer	\$1,265,000.00

The provincial government had taken advantage of the grants from the Federal government and in addition had submitted plans for a \$3,500,000.00 provincial technical school to be located in Edmonton. The Federal government would pay 75% of the cost of construction for both the secondary school facilities as well as facilities for the institute of technology.

By June 1963 a total of 18 new vocational high schools or wings on existing high schools had been approved by the Department of Education. These were located at Medicine Hat, Calgary (3), Bowness, Red Deer, Drumheller, Camrose, Stettler, Edmonton (3), Jasper Place (2), Grande Prairie and Grouard. There were two satellite schools, one at Fort MacMurray and one at Fort Chipewyan. A vocational education wing was added to the Lethbridge Junior College. Cunningham and Chalmers (1963) stated that the estimated cost of the facilities and equipment for these schools was \$31,000,000.00. (p.1)

The majority of these schools were non-residential day schools with the exception of the schools located at Drumheller and Grouard. To accommodate students from the wide area of Central Eastern Alberta a dormitory was constructed in conjunction with the school at Drumheller. A hostel at Grouard was converted into a residence for students who attended that school. At Desmarais and Fort Chipewyan non-resident students were to be accommodated at the Indian Resident Schools of these centres. (Cunningham and Chalmers, 1963, p.5)

Approximately one year later the number of new schools or additions to existing schools in the province had increased from 18 to 21 to provide training accommodation for 11,575 students. All of these building projects qualified for federal grants.

As a result of the shared-costs conditions of the T.V.T.A. Agreement, there was evidence in the province in the form of well equipped facilities for vocational education that the federal and provincial monies had assisted numerous school boards to put these facilities in place. Through the first four years of this agreement (1961-1965) provincial authorities had spent

\$31,721,376.17 on buildings and equipment for vocational education. Between 1965 and 1969 an additional amount of \$43,570,845.50 had been spent for a total expenditure of \$75,292,221.67.

In discussing these vast sums of money for vocational education Grywalski (1973) wrote:

Of the \$75,292,221.67 spent, a total of \$46,698,471.30 was recovered from the Federal government, which meant that the expanded educational facilities in secondary schools had cost the provincial government slightly more the 38 percent of their true value. (p.118)

The Calgary Public #19 along with Edmonton Public #7 received the major portion of this financial assistance. From 1961-1969 inclusive the Calgary Board was to receive \$19,187,569.06 while the Edmonton Board was to receive \$19,032,722.38. During the time frame 1961-1969 the Calgary Board used its funds for the construction and equipping of seven vocational education high schools and the addition of wings to three other schools, while the Edmonton Board used its funds to construct four vocational education high schools and the expansion and equipping facilities in six other high schools. These two school jurisdictions accounted for spending \$38,220,291.44 of the \$46,698,471.30 that was spent or more than 50% of the provincial monies claimed under Program I of the Act.

Because of the deadline dates that had been written into the Act, this scheme had necessitated crash planning by school boards for the building, equipping and utilization of these new structures. The most obvious advantage resulting from this crash program was that some of the composite schools that were built were equipped with facilities which were badly needed, although all were not immediately put to the best possible use because of the lack of adequate planning.

In the long run the most important advantage was the construction of new facilities which gave a major thrust to the concept of vocational education which might have taken years to acquire had the T.V.T.A. Act not been legislated.

The impact that federal funds from the T.V.T.A. Agreement had on the construction of new vocational schools or the addition of wings to existing schools in the Calgary Public School System will be discussed in detail in a subsequent chapter of this report.

CURRICULAR DEVELOPMENTS IN VOCATIONAL EDUCATION

With the signing of the Technical and Vocational Training Agreement on 18 July, 1961 between Alberta and Ottawa this brought immediate action by personnel of the Department of Education to put vocational education programming in place as soon as possible. Because of the huge amounts of money that would be provided to the province under this Act, shops had to be planned, equipment needs identified and orders placed, programs established, curriculum guides for each program had to be written and approved, and teachers prepared with the appropriate education. According to Smith (1973) "In addition to this, an examination of the whole field of industrial education (Industrial Arts and Vocational Education, brackets, mine) would have to be undertaken" (p.70).

This examination began on 1 February, 1961 when the Department of Education called a meeting on the topic of "Vocational Education". The purpose of that meeting, according to the minutes of the meeting, was "to prepare a statement for presentation to the meeting of city board members and their officers on February 10" (Minutes Departmental Meeting Re Vocational Education, 1961, no page number given). The members of this Committee included:

Dr. W. H. Swift	Deputy Minister of Education
Dr. T. C. Byrne	Chief Superintendent of Schools
M. L. Watts	Director of Curriculum
A. B. Evanson	Associate Director of Curriculum
R. E. Byron	Director, Division of Vocational Education
J. P. Mitchell	Supervisor of Industrial Arts
Dr. H. T. Coutts	Dean, Faculty of Education, University of Alberta, Calgary
E. W. Wood	Principal, Provincial Institute of Technology and Art
Dr. R. E. Rees	Assistant Chief Superintendent
Dr. H. S. Baker	Assistant Dean of Education, University of Alberta, Calgary. (Minutes, 1961)

As a result of its discussions and deliberations the Committee came to the following conclusions:

1. There was a need for pre-employment training for the trades as the technical institute moved away from this field.
2. High School vocational courses would have to be very specific and not exploratory. As a consequence, students would spend a greater part of their time in the shops, teachers would need at least journeyman's qualifications, close liaison with industry would be necessary and the students' other courses in the school should be related to trade training.
3. Articulation with the Institute of Technology should be provided. (Minutes, 1961)

In addition to the above conclusions, the Committee also identified the qualifications for those who would become vocational education teachers in the secondary schools of the province. These qualifications were established because the Committee wanted the teacher education program to meet the standards set by the Federal government. The qualifications that the Committee identified for Vocational Education Teacher Education Candidates were:

The staff should have at least journeyman qualifications and have had industrial experience. The emphasis in their training should be on the skill itself and on practical experiences. The usual professional qualifications in education may be of secondary importance. (Minutes, 1961)

In addition, the Committee wanted the vocational education program "to be much more "trade" or "industrial" oriented and much less exploratory than is presently the case". (Minutes, 1961)

TECHNICAL - VOCATIONAL COMMITTEE OF THE SENIOR HIGH SCHOOL ESTABLISHED

Before Alberta became a signatory to the Act in June 1961, Dr. T. C. Byrne¹, in a letter to Dr. W. H. Swift, proposed that a Technical-Vocational

¹ Dr. T. C. Bryne was Chief Superintendent of Schools of the province and Dr. W. H. Swift was Deputy Minister of Education.

Committee be established which would "give consideration to appropriate high school programmes in vocational education" (Minutes of the thirty-fourth meeting of the Senior High School Curriculum Committee, 1961, p.15). The Technical-Vocational Committee would be, in part, responsible to the Senior High School Curriculum Committee and provide guidance and make recommendations related to vocational education, to the Sub-committee on Programming as well as to the Board of Teacher Education and Certification. This Committee was to report to, as well as have representation on the Provincial Advisory Committee on Technical Training

Byrne and his colleagues at the Department of Education were aware that other committees would have to be put in place. In his memorandum of 17 August, 1961 to Dr. Swift, Byrne presented the need for establishing the Technical-Vocational Committee of the Senior High School when he wrote:

The need for the establishment of a Technical-Vocational Committee of the Senior High School has been discussed and placed before the minister. My understanding is that tentative approval has been given to the establishment of this committee. (Memorandum, 17 August, 1961)

In that correspondence Byrne gave the major function of this Committee "to coordinate the planning and organization of Technical-Vocational Education in the provincial high schools" (Memorandum, 17 August, 1961). Mr. R. H. Cunningham, Supervisor of Industrial Arts in the Department was given the responsibility to chair the Technical-Vocational Committee of the Senior High School.

Following discussions with staff of the Instructional Division of the Department and in consultation with some of the school officers in the Edmonton School System the following list of members was proposed for the Technical-Vocational Committee of the Senior High School:

- Mr. R. H. Cunningham (Chairman)
- Mr. R. E. Byron
- Mr. J. P. White (or some other representative from the Apprenticeship Board)
- Mr. E. W. Wood (Southern Alberta Institute of Technology)

Mr. J. P. Mitchell (Northern Alberta Institute of Technology)
 Mr. O. Massing
 Mr. A. B. Evenson (representing the City of Edmonton)
 Mr. W. E. Robinson (Supervisor in Industrial Arts, Edmonton system)
 Mr. T. M. Parry (Supervisor of Vocational Education, Calgary)
 Mr. R. Warren (or his representative)(representing City of Calgary)
 The Chief Superintendent of Schools and the Director of Curriculum will
 be ex officio members of this committee. (Memorandum, 17 August, 1961)

When the Committee was actually formed it had twelve appointed members
 that included:

R. H. Cunningham, Supervisor of Industrial Arts, Chairman
 T. C. Byrne, Chief Superintendent of Schools, Edmonton
 R. E. Byron, Director of Vocational Education, Edmonton
 A. B. Evenson, Edmonton Public School Board, Edmonton
 O. Massing, High School Curriculum Assistant, Department of Education,
 Edmonton
 J. P. Mitchell, Principal, Northern Alberta Institute of Technology,
 Edmonton
 T. M. Parry, Calgary Public School Board, Calgary
 W. Robinson, Edmonton Public School Board, Edmonton
 R. Warren, Superintendent, Calgary Public School Board, Calgary
 M. L. Watts, Director of Curriculum, Department of Education, Edmonton
 F. E. Whittle, Apprenticeship Board, Edmonton
 E. W. Wood, Principal, Southern Alberta Institute of Technology,
 Calgary. (Minutes of the Sub-Committee on Programming, 1961, p.1)

These appointments were announced by Byrne at a meeting of the
 Sub-Committee on Programming that was held in Edmonton 27 October, 1961. At
 that meeting, Cunningham stated that he envisaged three streams for the
 proposed programmes in the vocational high schools. These streams were:
 the terminal; the four year matriculation vocational; and the three year
 high school vocational diploma.

It was the Sub-Committee's task to examine, discuss, debate, revise or
 reject the three programs presented by the Chairman. Another task of the
 Sub-Committee was to propose a core program for vocational education which
 would be acceptable to the following agencies: the Apprenticeship Board;
 the Technical Institutes; and the Federal government.

To assist the Technical-Vocational Committee of the Senior High School with the responsibility to establish a core program, the Senior High School Curriculum Committee provided the Committee with its interpretation of the regulations pursuant to the T.V.T.A. Agreement. The interpretations of these regulations were:

- (a) The proposed vocational high school should have a minimum of 1,000 students.
- (b) In the industrial-vocational programmes, schools should support a diversity of subjects, and not be limited to the traditional shops.
- (c) The programmes should be articulated with apprenticeship and technical institutes.
- (d) Programmes should be structured so as to permit students to spend 50% of their time in one shop or industrial area, plus take the related mathematics, science or drawing.
- (e) Instructors should be qualified tradesmen, and in designated trades, hold a Journeyman's certificate. (Minutes of the Thirty-fourth meeting of the Senior High School Curriculum Committee, 1961, p.15)

PREPARATION OF CURRICULUM GUIDES

To prepare curriculum guides for each program, a sub-committee structure was established. Each of the sub-committees was assisted by personnel from the industry concerned, the Provincial Institute of Technology and Art, and The Apprenticeship Board.

To provide the Chairman of these sub-committees with a clearer picture of their mandate, these individuals were summoned to a meeting with the Chairman of the Technical-Vocational Committee of the Senior High School. The meeting took place at the Department of Education on 2 December, 1961. At that meeting Cunningham stated that the courses offered in the schools should be fairly uniform with respect to the theory taught, the equipment required, and the time spent in the learning of skills and the application of theory. This uniformity would assist in the granting of credits towards a high school diploma, permit the transfer of students from one school to another with a minimal amount of disruption in program, and enable the Department of Education to present a unified front to the Apprenticeship

Board, Technical Institutes and Industry when registration was being sought of the courses offered. (Grywalski, 1973, p.220)

It was agreed that personnel from Calgary and Edmonton be given the responsibility of preparing the course outlines. When the first drafts of the outlines were prepared they were to be submitted to vocational education teachers in other schools for review, modification and approval.

The course outlines that were formulated by the sub-committees were to be interim for at least two years before final approval was granted by the Department of Education.

Related to the preparation of course outlines were the credit values that were to be assigned to the different grade levels. Cunningham indicated that the Department of Education wanted approval for courses for five credits at the Grade X level and twenty credits at the Grade XI and Grade XII level. The courses that were developed for these grade levels would be designated "12", "22", and "32" respectively.

TENTATIVE COURSE OUTLINES

During the first month of 1963 the sub-committee had prepared course outlines for Commercial Art 12, 22 and 32 and Sheet Metal 12, 22 and 32. Vocational education teachers in Calgary and Edmonton had completed tentative course outlines for:

- Automotives 12, 22, 32
- Building Construction 12, 22, 32
- Drafting 12
- *Electricity 12, 22, 32
- *Electronics 22, 32
- Food Preparation 12, 22, 32
- Graphic Arts 12, 22, 32
- Machine Shop 12, 22, 32
- Pipefitting 12, 22, 32
- Welding 12, 22, 32.

(Minutes of the Thirty-eight meeting of the Senior High School Curriculum Committee, 1963, p.6)

* First year electricity-electronics (12) contained common materials.

The above course outlines were placed in the hands of other vocational education teachers for their review and comment before they were accepted by provincial sub-committees. After these course outlines had been accepted by these sub-committees, they were then forwarded to the appropriate Apprenticeship Advisory Committee. Following approval by this Committee, the final draft was prepared for distribution to the vocational education teachers concerned.

VOCATIONAL EDUCATION PROGRAMS TO BE OFFERED

With vocational education facilities either in the planning stage or the construction phase, vocational education curriculum guides had to be developed for the twenty four courses. The Department of Education had assumed the responsibility for establishing curriculum sub-committees which included heads of Departments from both the Northern Alberta Institute of Technology (N.A.I.T.) and the Southern Alberta Institute of Technology (S.A.I.T.), a supervisor from the Apprenticeship Board, representatives from industry and vocational education teachers who would be teaching the course.

The Curriculum Newsletter for August 1963 stated that the following programs were to be offered in one or more of the vocational education schools or wings of schools that had been approved for construction. The programs that were listed included:

Agricultural Mechanics	Electricity
Appliance Repair	Electronics
Autobody	Food Preparation
Automotives	Graphic Arts
Beauty Culture	Institutional Service
Business Education	Machine Shop
Cabinet Making	Pipe Trades
Carpentry	Printing
Commercial Art	Radio & T.V. Repair
Data Processing	Sheetmetal
Drafting	Welding.
(Curriculum Newsletter, August 1963, p.3)	

Cunningham and Chalmers (1963), were cautious and were predicting the future of some of these courses when they wrote: "Other courses may be added as the need arises: others may be dropped if and when they are no longer necessary" (p.3). At the time that the newsletter was written there was an unofficial decision made at the Department of Education that a maximum of 10 of the above 24 courses would be offered in most vocational education schools.

High school credit would be granted for these and other courses approved by the Department of Education.

The Department of Education through its Curricular Letter #14 in September 1963 endorsed the following vocational education courses to be offered in approved high schools.

Automotives 12 and 22
Carpentry 12 and 22
Commercial Art 12 and 22
Beauty Culture 12 and 22
Drafting 12 and 22
Electricity 12 and 22
Electronics 22
Food Preparation 12 and 22
Graphic Arts 12 and 22
Machine Shop 12 and 22
Pipe Trades 12 and 22
Welding 12 and 22. (Curricular Letter #14, 1963, p.1)

Curriculum development activities using the sub-committee structure continued to progress in 1963 but not without their problems. One of these problems was the granting of credit for locally developed courses. Cunningham took the position that local school boards could develop their own courses but these would be considered by the department to be terminal courses and they would not be recognized by the department for credit. Personnel in Calgary took opposition to the position taken by Cunningham because they felt that students should not be placed in programs that failed to grant them high school credits. The Director of Curriculum of the Department of Education, M. L. Watts accepted Calgary's point of view and

recommended that tentative credit be given to students who successfully completed course requirements for "15" courses at the Grade X level. Provincial sub-committees would examine "15, 25 and 35" courses for approval providing Calgary would accept any revisions considered necessary. In Alberta, courses in vocational education that are locally designed and approved by the Minister are designated as "15, 25, 35" courses.

HIGH SCHOOL CREDITS - VOCATIONAL EDUCATION

The Department of Education in early December 1963 decreed that under the terms of the Technical Vocational Training Assistance Act, schools built under this legislation had to provide 35 of a possible 100 credits that would lead to a high school diploma in vocational education. Because of this decree, students who planned to complete matriculation in three years would not be able to take vocational education subjects after Grade X.

The change had little effect on students who planned to take high school matriculation in four years or others who planned to take a broad program of both academic and vocational education subjects. The change was intended to create uniformity in high school grades throughout the province. The change meant that half as much vocational instruction would be given in all first year courses with one third more added to second year courses.

Regardless of whether a school is organized on a quarter, semester, trimester or ten-month basis for instructional purposes, it is required that a total of at least 25 hours per credit be scheduled for purposes of instruction, examinations, and other student activities directly related to the course for which credit is to be granted. According to information in the Junior-Senior High School Handbook (1982-83), staff meeting days or those days used for professional development, school organizational days, conventions or similar activities where students do not receive instruction, are not to be included in the 25 hours per credit allocation. A school may provide more than minimum time for any course. (p.13)

To receive credit, a student must receive a minimum mark of 40% or D. Students who received one hundred credits were awarded a High School Diploma.

PERSONNEL CHANGES AT THE
DEPARTMENT OF EDUCATION

In 1963 there were some changes in personnel at the Department of Education when M. R. McDougall resigned as Acting Supervisor of Industrial Arts and J. D. Harder was employed to replace him as Supervisor of Industrial Arts. Cunningham had been appointed High School Inspector for Vocational Education. These changes would have an influence on the structure of both industrial arts and vocational education later in the decade of the sixties.

CHAPTER V

VOCATIONAL EDUCATION BECOMES A REALITY IN CALGARY PUBLIC SCHOOLS

INTRODUCTION

The content of the previous chapter illustrated the procedures that the personnel of the Department of Education used to form committees to design curricula for the various vocational education programs of studies in order to implement the T.V.T.A. Act into secondary education in Alberta.

A minor part of the content of chapter four was a description of the five routes for secondary education that had been developed by committees that were struck by the School Board. These five programs were: the enriched matriculation route; the three year matriculation route; the four year matriculation route; the three year vocational program (Senior Vocational Program); and the pre-vocational program (Junior-Academic Vocational Program).

The content of this chapter will show how the Calgary School Board used funds provided for under the Act, to implement and expand its' educational structure by the addition of vocational education to the secondary schools of the system.

PRELUDE TO IMPLEMENTING VOCATIONAL EDUCATION IN CALGARY PUBLIC SCHOOLS

Reorganization of high school programs was the focus of attention for the School Board when it planned to incorporate vocational education into the secondary schools of the system. Two members of the Board attended a conference on vocational education that was held in Edmonton on 10 February, 1961. A report on this conference was the subject of discussion of the Education Committee of the Board at its meeting that was held on 23 February, 1961. As a result of this discussion, the Board authorized

personnel of central administration to study the problems associated with vocational education and to make some general recommendations for action. The resulting report, its findings, and recommendations were adopted by the Board at a special meeting that was held on 29 June, 1961.

Included in the 13 October, 1961 issue of the Calgary Herald was an article which indicated that preliminary plans for two new high schools were approved by the Board. These schools would include vocational education wings in order to qualify for conditional funding under Program I of the Agreement. Using this approach, and providing the schools could be completed prior to the 31 March, 1963 deadline, they would be eligible for 90% funding. This would save the public school taxpayer at least \$1,000,000.

This was a first opportunity for the School Board to acquire financial assistance from the Federal government for the construction of secondary school facilities that would include classrooms and shops for vocational education. These two academic-vocational high schools would be composite high schools and would serve approximately 20% of the high school population of the system. Before construction could begin on James Fowler High School and Ernest Manning High School, the planning phase and other pre-construction phases would have to be co-ordinated with the School Buildings Assistance Board. Because enrollment projections of the School Board were that by October 1964 the high school population of the system would increase from 6,600 to 9,500, if between 1,400 to 1,600 of the projected increase of students were to be housed, these two schools would have to be completed by the beginning of the 1963 fall term.

TECHNICAL ELECTIVES

Prior to the early sixties, technical electives existed at the high school level which were shop courses that a high school student could elect in addition to taking the other required courses. Some of the technical electives that a student could take included: Carpentry, Drafting, Automotives, or Machine Shop. In a technical elective a student would spend

approximately half-time in the classroom and half-time in the shop. The courses were taught by teachers who were certified and who had taken additional practical course work at the institute or who were fully qualified journeymen with trade experience.

An anomaly of these electives was that students who successfully completed a technical elective received high school credits in an industrial arts subject yet, the teachers who were qualified to teach technical electives were trade oriented, with attitudes, experiences and philosophies compatible with trade careers and the world of work. It follows that, although courses that were successfully completed were credited to Industrial Arts, injection of trade material content was becoming evident.

Because of this and the learning environment where these electives were taught, there were educational leaders in the province who considered these courses to be quasi-vocational education and not industrial arts per se.

THE 1961-62 SCHOOL YEAR

During this school year, Shop 10 and 11, Shop 20 and 21, and Drafting 10 and 20 were the six technical electives that were available to high school students. In these courses there were 651 students enrolled which were divided into 35 classes, with a class average of 18.6 students per class. The 1961 Annual Report of the Board shows the following census for each of these courses:

TABLE 2
TECHNICAL ELECTIVE STUDENT POPULATION 1961

COURSES	STUDENT POPULATION	NUMBER OF CLASSES
Shop 10 & 11	446	26
Shop 20 & 21	72	5
Drafting 10 & 20	133	4
TOTAL	651	35

(Calgary Public School Board Annual Report, 1961)

THE 1962-63 SCHOOL YEAR

During the 1962-63 school year of the technical electives that were offered, Shop 11 was dropped as a technical elective and Shop 30 was added. In these six electives there were 2307 students enrolled in 129 classes, with a class average of 17.0 students per class. Data in Table 3 shows the student enrollment for each course as well as the number of classes for that particular course that were offered in the district.

TABLE 3
TECHNICAL ELECTIVE STUDENT POPULATION 1962

COURSES	STUDENT POPULATION	NUMBER OF CLASSES
Shop 10	1525	84
Shop 20	209	8
Shop 21	112	8
Shop 30	54	4
Drafting 10	349	15
Drafting 20	58	2
TOTAL	2307	129

(Calgary Public School Board Annual Report, 1962)

The high enrollment in "Shop 10" was due to either the renovations or the opening of new shops at Henry Wisewood and Viscount Bennett High Schools. At both schools, an Automotive Shop was opened with a Woodworking Shop also being opened at Viscount Bennett. The Electricity Shop at Henry Wisewood was renovated to include an Electronics Room; other renovations at this school included placement of new equipment in the Metal Shop; changes were made to the Arts and Crafts Rooms; a new Drafting Room was added; a related Drafting Room to serve the new shops and a new shop theory room were added.

Comparing data in table 2 for Drafting 10 with the data found in table 3, it is evident that the enrollments for this particular course increased approximately 300 percent over the previous year.

There was continued growth in both the high school population and the teacher force of the district. The increase in these populations could be attributed to two factors: (1) two new high schools came on-stream - Central Memorial High and Forest Lawn; and (2) immigration into the city did not abate.

The School Board spent \$4,434,203.00 for site upgrading, alterations or additions to Ernest Manning High School; Forest Lawn High School; Henry Wisewood High School; James Fowler High School; Queen Elizabeth Junior and Senior High School and Viscount Bennett Junior and Senior High School.

This school year was an extremely busy one for the group of vocational education teachers who were charged with the responsibility for planning the two new academic-vocational high schools as well as developing curriculum guides for selected vocational education courses; compiling accurate equipment lists for vocational education; drawing up equipment specifications for tender; preparing new submissions and re-submissions; tabulating bids; and placing and confirming orders for equipment.

THE 1963-64 SCHOOL YEAR

During this school year two new academic-vocational high schools, Ernest Manning and James Fowler, that were partially funded under the Federal-Provincial Technical and Vocational Training Agreement opened September 1963. In their first year of operation, only 12 and 15 level vocational education courses were made available to Grade X students with 22 and 32 or 25 and 35 level courses to follow in subsequent years.

Because there were surplus physical facilities for vocational education students in both schools, students from the Junior Academic Vocational Program were housed in these two schools until permanent accommodation and facilities became available when Shaughnessy Secondary Vocational School on the south side and Van Horne Secondary Secondary Vocational School on the north side were completed.

ERNEST MANNING HIGH SCHOOL

Ernest Manning High School was built at 16 Avenue and 35 Street South West. This school was designed to accommodate a school population of 1600 students by 1965. This school was built at a cost of \$3,018,000.00 with equipment costing an additional \$385,168.00.

In the vocational education wing, physical facilities included shops where the following programs of studies could be taught: Automotives, Business Education, Carpentry, Commercial Art, Drafting, Electricity, Electronics, and Machine Shop. Later both Sheet Metal and Welding were added to the programs that were offered. When these facilities were in the planning stage, it was estimated that the equipment costs for the vocational education wing would be approximately \$305,000.00.

JAMES FOWLER HIGH SCHOOL

James Fowler High School was built at 4004 - 4 Street North West. This school was designed to accommodate a school population of between 1400 and

1600 students (Calgary Public School Board Annual Report, 1963). This school was built at a cost of \$3,232,822.00 with equipment costing \$451,664.00.

The physical facilities at the school for vocational education were similar to those found at Ernest Manning High School. Vocational education programs of studies that were offered at this school included: Business Education, including Accountancy, Clerical Work, and Secretarial Studies; Commercial Sewing; and Home Economics. Technical subjects included: Autobody; Automotives; Carpentry; Drafting; Electricity; Electronics; Food Services; Machine Shop; and Welding.

When the two academic-vocational high schools opened to students in September of the 1963-64 school year, the School Board with the financial support provided by federal-provincial grants, had invested \$7,072,549.00 in vocational education at the secondary school level. (Note that with the passage of time, building costs, plus increased equipment placement caused an increase in total costs annually.) With the institution of this type of education into the educational structure, school reformation began. Education previously was developed along a single track and was designed to accommodate those students who were academically oriented and who planned to further their education at university. Vocational education would give other students who wished to enter the world of work, the privilege of developing skills in the three learning domains.

In the fall of 1963 there were a total of ten schools in the district that offered courses in either "Technical Electives" or vocational education that were taught by qualified teachers in a unit shop setting. Data in table 4 show the student enrollments for technical/vocational courses that were offered in these ten schools during the 1963-64 school year.

TABLE 4
HIGH SCHOOL ENROLLMENTS 1963
TECHNICAL/VOCATIONAL

SCHOOL	STUDENTS
Crescent Heights	558
Ernest Manning	357 Grade X only
Forest Lawn	77
Henry Wisewood	410
James Fowler	223 Grade X only
Montgomery	73
Queen Elizabeth	203
Viscount Bennett	611
Western Canada	491
William Aberhart	360
TOTAL	3363

(Calgary Public School Board Annual Report, 1963)

Many of the vocational education subject teachers found themselves in the classroom for the first time. They were individuals who had been earning their living in industry or the business world up to a year previous to entering teaching and knew from experience that the "school of hard knocks" existed. Many were individuals who had finished high school with senior matriculation, but for various reasons had gone to work instead of university. It was evident that each of these teachers had varied backgrounds and qualifications because when the School Board advertized for vocational education teachers, one criterion for employment was journeyman qualification or its equivalent in a non-apprenticeable trade. Another criterion for employment was a minimum of five years trade experience.

It will be recalled from information in Chapter IV that the new plan for secondary education that had been approved by the School Board for senior high schools included five different routes that a student could

follow. Of these five routes, three were for vocational education students and in 1963-64 included the following:

The Three Year Vocational Program (Senior Vocational Program) was designed for those students who did not qualify for matriculation programs but who had high interest and aptitude in the technical or the business education areas. Some of the vocational education courses for this program were locally designed courses that had been approved by the Minister of Education. These particular courses were identified by the numbers 15, 25 and 35.

The Four Year Matriculation Route (Four Year Technical) that was designed for a segment of students who after successfully completing the requirements for university admissions, would also have enough credits in technical courses for admission to the institutes of technology where they might receive a year of advanced credit. Vocational education courses that these students took were identified by the numbers 12, 22 and 32.

The Three Year Matriculation Route (Three Year Academic - Vocational) this program was designed to provide the student with entry level skills for direct entrance into the world of work or for entry into the apprenticeship system where the graduate of this program might receive advanced standing. Vocational education courses that comprised this program were numbered 12, 22, and 32.

THE 1964-65 SCHOOL YEAR

During the fall term of this school year the Supervisor of Vocational Education of the District, technical department heads and technical instructors from Crescent Heights, Western Canada, James Fowler and Ernest Manning High Schools in addition to teaching or supervising, were engaged in planning shop layouts to new and existing facilities and preparing equipment lists for these facilities. Their efforts were reviewed by Subject Area

Committees who analyzed the suitability of layouts and placement of equipment for efficiency of teaching and learning.

After reviewing the results of studies that were completed by central office personnel, the School Board agreed that a class "A" composite type high school similar to Ernest Manning or James Fowler be built in Acadia, a school that would accommodate at least 1500 students. The student population for this school would be taken from neighborhood academic students as well as regional vocational education students. Initially this school was to be named Acadia High School but was later changed to Lord Beaverbrook High School.

(For information of the reader, a class "A" composite high school in the Calgary Public School System was one that met federal-provincial equipment standards for vocational education, offered the required number of subjects in technical-vocational education, and could accommodate a minimum combined school population of 1000 academic and vocational education students.)

In 1964 a business education suite of fifteen rooms was added to Henry Wisewood High School (\$552,381.00) and a twelve room business education suite was added to William Aberhart High School (\$180,326.00).

The upgrading of facilities and equipment were made to the following high schools: Forest Lawn, Henry Wisewood, Queen Elizabeth, Viscount Bennett and William Aberhart. In these schools most unit shops were converted and equipped so that "22" level technical elective courses could be taught.

Data in table 5 is a census of 1st and 2nd year students registered in the thirteen vocational education programs of study that were available in the ten high schools that had either technical or vocational education facilities. In these ten schools, there was a total of 62 teachers who taught either a technical or a vocational education course. In this table are data which show that in the ten schools there were 13 vocational education courses available.

TABLE 5
1ST AND 2ND YEAR ENROLLMENT
VOCATIONAL EDUCATION COURSES
1964-65

VOCATIONAL EDUCATION COURSES	YEAR		TOTAL
	1ST	2ND	
Automotives	554	190	734
Autobody	18	12	30
Carpentry	338	85	423
Commercial Art	49	21	70
Drafting	509	35	544
Electricity	377	46	423
Electronics *		66	66
Food Preparation	18	10	28
Graphic Arts	44	35	79
Machine Shop	190	39	229
Sewing & Design	8	3	11
Sheet Metal	16		16
Welding	33		33
TOTALS	2144	542	2686

* Electronics-Electricity students took the same basic course in their first year (Calgary School Board Annual Report, 1964).

Planning activities for the expanded vocational education building program for the district continued. The proposed approved equipment lists for the district were adopted. Semi-monthly Advisory Committee meetings were also held.

During the fall term of this school year, junior academic vocational students (pre-vocational program) continued to be distributed amongst the various junior high schools with the majority of these students temporarily

accommodated at either one of two high schools, Ernest Manning or James Fowler.

The Junior Academic-Vocational Program is fully described in a subsequent section of this chapter.

THE 1965-66 SCHOOL YEAR

During the 1965-66 school year, building additions to accommodate vocational education programs at Crescent Heights and Western Canada High Schools progressed at a rate slower than anticipated, due to the heavy demands on the construction industries in the Calgary area. Equipment lists that were approved by the Department of Education were tendered by the Board and some equipment was received.

Planning of Lord, Beaverbrook Academic - Vocational High School continued with the preparation of basic shop layouts and schematics for the placement of equipment. Staff committees were appointed and given the responsibility for preparing equipment lists for the vocational education programs of study to be offered in this school.

Expenditures made by the School Board for modifications or additions to the various composite high schools of the system to accommodate vocational education are shown in the following list:

Bowness High School - addition	\$ 14,949.00
Crescent Heights - addition	\$ 736,071.00
Ernest Manning - addition	\$ 29,898.00
Forest Lawn -	\$ 4,417.00
Henry Wisewood -	\$ 55,223.00
Western Canada -	\$ 564,943.00
William Aberhart - addition	\$ 124,317.00
North Jr. Academic-Vocational (Van Horne)	\$ 90,397.00
South Jr. Academic-Vocational (Shaugnessy)	\$ 8,294.00
TOTAL	\$1,628,509.00
(Calgary Public School Board Annual Report, 1965)	

The 1965 annual report of the School Board states that "Bowness community was absorbed by the City of Calgary in 1965. Bowness High School became part of the Calgary Public School System at that time", and that "Forest Lawn Community had been absorbed by the City of Calgary in 1962".

It was during this school year that vocational education programs of study were first taught to students at the Grade 12 level. The courses in these programs were numbered either "32" or "35" depending on whether the course was prepared by the provincial Department of Education or at the local level with Ministerial approval. Data in table 6 show these were 13 vocational education courses that were available to students in Grade 10, 11 and 12. These courses were available in 11 senior high schools in the system with a compliment of 73 teachers who taught either a technical elective or a vocational education class. Five of the 11 schools had a technical department head who met once a month with the Supervisor of Vocational Education of the system to discuss the improvement of instruction and other factors that were significant to departmental or classroom procedures. Of the high schools that offered a combination of the 13 vocational education courses shown in the following table, a student could elect one in order to prepare for the world of work. In this table are data which show the number of Grade 10, 11 and 12 students who were enrolled in the various vocational education courses.

TABLE 6
1ST, 2ND AND 3RD YEAR ENROLLMENT
VOCATIONAL EDUCATION COURSES
1965-66

VOCATIONAL EDUCATION COURSE	YEAR			TOTAL
	1	2	3	
Automotives	517	183	57	757
Autobody	19	13	10	42
Carpentry	337	89	30	456
Commercial Art	18	23	16	57
Drafting	556	154	45	755
Electricity	423	84	24	531
Electronics *		114	48	162
Food Preparation	16	10	6	32
Graphic Arts	63	25	14	102
Machine Shop	172	41	22	235
Sewing and Design	18	18	2	38
Sheet Metal	23	6		29
Welding	32	10		42
TOTALS	2193	770	274	3238

*There are no enrollment statistics shown for first year Electronic students because these students share a common first year program with students in Electricity (Calgary Public School Board Annual Report, 1965).

A statement in the 1965 Annual Report indicated that technical electives and vocational education programs and their companion courses appeared to be growing in demand as students and parents became better acquainted with the structure of educational opportunities that were available in the system.

Because the Board was concerned with keeping the technical elective teachers up-to-date with technological advancements, extensive in-service

training was conducted that included both seminars on and demonstrations of new equipment as well as new industrial processes.

In order to clarify for the reader a change in terminology that came into existence during the 1965-66 school year and that was associated with level of course, the following explanation is presented.

It will be recalled that vocational education courses at the 15, 25, 35 level were locally developed and provincially approved, while courses at the 12, 22, 32 level were provincially developed and approved. Programs of study that were made up of 15, 25, 35 level courses were given the title "Industrial-Vocational" because it was found that graduates of these programs usually went into industry or apprenticeship. Programs of study that were made up of 12, 22, 32 level courses were given the title "Technical" because graduates of these programs usually registered in a technology course at one of the Institutes of Technology.

Seven Advisory Committees were formed that involved representatives from business and industry to assist with the development of up-to-date course content for the following programs of study: Automotives, Carpentry, Drafting, Electricity, Graphic Arts, Machine Shop and Reinforced Plastics. These Committees operated under the following terms of reference:

- (a) to advise in developing course curricula;
- (b) to act as a liaison between the Calgary Public School Board and business and industry;
- (c) to promote student interest in the courses and to promote employer interest in the graduates.

(Calgary Public School Board Annual Report, 1966)

A major result of the Advisory Committee structure, was that a series of rotational meetings with key personnel from the major trade groups were held in high schools that offered advanced technical electives or courses in vocational education. The major purpose of these meetings was to acquaint these individuals with the vocational education programs of the district and the facilities where these programs were taught.

THE 1966-67 SCHOOL YEAR

Late in the spring term of the 1966-67 school year the additions for vocational education were completed at Crescent Heights and Western Canada High Schools. With the completion of these additions, there were 11 high schools in the system that were equipped to offer either basic technical electives or sequential technical electives and courses in several of the 14 different vocational education courses that were available. Some of these courses articulated with either apprenticeship training or programs that were offered at the institutes of technology. During this school year, Beauty Culture was added to the 13 vocational education courses that were in place and the course title Carpentry was changed to Building Construction thus Beauty Culture became the 14th course that vocational education students could take.

Construction of the Lord Beaverbrook High School progressed at a favourable rate, with Grade X students from Fairview and Acadia accommodated at the R.T. Alderman Junior High School. Equipment lists for this school were completed and submitted to provincial authorities for approval to purchase the equipment on these lists.

Early in the school year, plans for a new high school, Central Memorial, 5111 - 21 Street, South West, began when preliminary studies and Committee discussions on programs to be offered and the type of facilities required to house these programs were completed. Later in the year construction began on this school.

The School Boards' accelerated building program continued with the planning of Forest Lawn, E. P. Scarlett and Sir Winston Churchill High Schools. Van Horne (North) Secondary Vocational School opened in September for students enrolled in the Junior Academic-Vocational Program. Construction of the second Junior Academic-Vocational School Shaughnessy (South) Secondary Vocational School proceeded on schedule. Because of lack of instructional space, courses for students in this program continued to be

taught at the former Central High School and Western Canada High School where one shop was allocated to the program.

Building additions for vocational education were completed early in 1967 at Ernest Manning, Queen Elizabeth, Viscount Bennett and Western Canada High Schools. When these facilities opened, the high school staff increased by 63.9 teachers.

The Annual Report for 1966 includes the following expenditures for site development, additions to, or construction of facilities where vocational education would be taught.

Bowness	\$ 10,069.00
Crescent Heights	\$1,110,151.00
Forest Lawn	\$ 62,628.00
Henry Wisewood	\$ 6,075.00
James Fowler	\$ 8,906.00
Lord Beaverbrook	\$2,727,328.00
Shaughnessy Jr. Academic-Voc.	\$ 522,191.00
Van Horne Jr. Academic-Voc.	\$1,204,899.00
Western Canada	\$ 934,288.00
Forest Lawn Site	\$ 65,000.00
Lord Beaverbrook Site	\$ 78,850.00
Total	\$6,739,385.00

(Calgary Public School Board Annual Report, 1966)

In the 11 senior high schools and in the two junior academic-vocational schools there were a total of 86 teachers who taught either a technical elective, a vocational education course, or a practical course. In five of the 11 high schools, there was a department head who met regularly with the Supervisor of Vocational Education to co-ordinate the technical elective and vocational course offerings in schools of the system.

The School Board elected to appoint co-ordinators for each subject area to assist subject area teachers with the planning of activities that would provide solutions to the more common problems associated with teaching. Each subject area was organized so that it consisted of a chairman and a secretary who served for a one year term of office which began in January. Because of this new staff organizational structure in the schools, several aspects of the instructional programs improved and there was also

improvement in the lines of communication between teachers, department heads, and school administrators.

Regular technical elective staff meetings for the system were held at either Forest Lawn, Henry Wisewood, or William Aberhart High Schools because department heads had not been designated in these schools. These meetings gave the instructors opportunities to deal directly with the specific instructional problems they had as well as providing them with opportunities to co-ordinate course content and instructional material on a system wide basis.

Previously prepared, locally designed courses at the "15, 25, 35" level that had been approved by the Department of Education were reviewed, rewritten and resubmitted to the Department for approval. The courses that were resubmitted for approval included: Automotives, Building Construction, Commercial Art, Drafting, Electricity, Sewing and Design, and Welding.

Enrollments for the 14 vocational education courses that were available to students during this school year are shown in the following table.

TABLE 7
1ST, 2ND AND 3RD YEAR ENROLLMENTS
VOCATIONAL EDUCATION COURSES
1966-67

VOCATIONAL EDUCATION COURSE	YEAR			TOTAL
	1	2	3	
Autobody	19	8	6	33
Automotives	558	169	79	806
Beauty Culture ¹	24			24
Building Construction ²	323	38	22	383
Commercial Art	66	36	16	118
Drafting	693	113	37	843
Electricity	466	36	24	526
Electronics *		117	41	158
Food Preparation	20	11	1	32
Graphic Arts	118	17	13	48
Machine Shop	203	30	13	246
Sewing and Design	16	16	6	38
Sheet Metal	58	4	3	65
Welding	16	9	7	32
TOTALS	2580	604	268	3452

1 Beauty Culture was a new course that was added this year.

2 Note that "Carpentry" became "Building Construction" with the commencement of the 1966-67 school year.

* Electronics students in their first year share a common course with first year electricity students.
(Calgary Public School Board Annual Report, 1966)

THE 1967-68 SCHOOL YEAR

Lord Beaverbrook High School opened in September of this school year and it became the sixth senior high school in the system that was equipped

to offer sequential technical and industrial vocational courses at the "15-25-35" level. There were five feeder schools in the system that offered basic technical courses where students could establish their aptitudes and interests in a selected trade area before transferring to one of the six high schools to complete a minor program in either a technical industrial or vocational program of study.

The Annual Report for 1967 includes the following expenditures for new buildings, additions to existing, and site preparation for the two new composite high schools.

New:	
Central Memorial	\$ 376,774.00
Lord Beaverbrook	\$2,892,561.00
Shaughnessy Vocational Sec.	\$1,382,725.00
Van Horne Vocational Sec.	\$ 869,261.00
TOTAL	\$5,021,321.00
Additions:	
Ernest Manning	\$ 364,148.00
Queen Elizabeth	\$ 424,264.00
Viscount Bennett	\$ 7,012.00
Western Canada	\$ 212,815.00
TOTAL	\$1,008,239.00
Sites:	
Forest Lawn High School	\$ 2,500.00
Winston Churchill High School	\$ 48,000.00
TOTAL	\$ 50,500.00
(Calgary Public School Board Annual Report, 1967)	

In September 1967 the number of students registered by subject in the 14 technical and industrial vocational courses that were offered in the 11 schools are shown in table 8.

TABLE 8
1ST, 2ND, AND 3RD YEAR ENROLLMENTS
TECHNICAL AND INDUSTRIAL VOCATIONAL COURSES
1967-68

COURSE	YEAR			TOTAL
	1	2	3	
Autobody	0	12	5	17
Automotives	498	144	60	702
Beauty Culture	38	26	0	64
Building Construction	368	45	13	426
Commercial Art	45	28	18	91
Drafting	536	131	50	717
Electricity	511	57	17	585
Electronics *		121	57	178
Food Preparation	82	1	5	88
Graphic Arts	100	21	8	129
Machine Shop	167	42	15	224
Sewing & Design	41	7	13	61
Sheet Metal	79	14	2	95
Welding	16	12	9	37
TOTALS	2481	661	272	3414

* Electronics students in their first year share a common course with first year electricity students.
Note: Semestered schools have shown fall registration only.
(Calgary School Board Annual Report, 1967)

During the 1967 term, eight advisory committees met on a regular basis and committees for two proposed courses, Plastics and Drycleaning, were organized to formulate curricula and assist with shop planning and developing equipment lists. These activities were co-ordinated by the Supervisor of Vocational Education from central office. Both the proposed curricula and the equipment lists for these locally designed courses were

submitted to the Department of Education for approval and approval was also requested of the Department to grant credits for these two courses.

To assess trends in occupational fields that were represented by the 14 vocational education programs, other advisory committees continued to function. From the results of these meetings, vocational education teachers continued to draw guidance for modifying course content as well as advice and assistance on the purchase of tools and machines from the standpoint of their training capabilities for future trades personnel, rather than as status symbols for the program.

Department heads from seven senior high schools met monthly with the Supervisor of Vocational Education to co-ordinate vocational education courses offered in the system and to facilitate the improvement of instruction in the classrooms and shops where vocational education courses were taught.

The technical and industrial vocational programs continued to be two routes in the educational structure for interested students who possessed the specific aptitudes needed to successfully complete these programs. The Three Year Academic-Vocational route was meeting the needs of the non-matriculant student in preparing that individual for initial occupational placement.

The Four Year Matriculation route with its technical minor in addition to, providing the student with the background for additional education at the post-secondary level, also provided the student with some preparation to enter the world or work.

In 1967 the Calgary School Board began to award scholarships of \$100 to Grade XII technical, senior vocational and business education students who upon graduation, registered and attended a course of at least one year duration at either an approved post-secondary institution or registered in an approved apprenticeship that confirmed indenture.

This was the year that the first follow-up study was conducted by central administration staff of the first graduates (1966) of the program. The results of that research showed that those who graduated, benefitted from their technical or industrial vocational courses. Approximately 79.1% of the 1966 graduates and 77.0% of the 1967 graduates involved in the research were employed in an occupational field related to their vocational education courses or they were taking further post-secondary training at either an institute of technology or in an apprenticeship program.

THE 1968-69 SCHOOL YEAR

Although Central Memorial High School opened in September, the facilities for technical and industrial-vocational courses were not completed until the second semester. When these facilities were opened, this school was the seventh composite high school that was equipped and staffed to offer sequential courses at the 12, 22, 32 level as well as at the 15, 25, 35 level. Five additional schools offered, in addition to an academic program, first year courses in vocational education. These schools could not present a full compliment of these courses for the following reasons: (1) low enrollments for the sequence of courses offered or (2) the teacher teaching the course was not a qualified journeyman. Teachers who were not qualified journeymen were permitted to teach "12" or "15" level vocational education courses only. Those who taught "22" "32" or "25" "35" level courses had to be certified journeymen because of the provincial grant structure for vocational education.

The compliment of vocational education courses that students could take during this school year increased to 15 when Plastics was offered for the first time.

Construction of Forest Lawn and Winston Churchill High Schools began. There was close liaison between central office personnel and staff committees who assisted with the preparation of shop layouts and equipment lists for these two schools.

Basic planning for E. P. Scarlett High School that was to be located in the South West part of the city began during this school year.

One of the five programs that was an integral part of "the new plan for secondary education" in the system was the Three Year Vocational program (Senior Vocational Program). This Program was designed to provide students with entry level skills that would permit them two alternate routes to occupational preparation. One of these routes was direct entry into a job; the other route was to enter into an apprenticeship program with some degree of advanced standing. The following high schools offered the Senior Vocational Program: Ernest Manning, James Fowler, Lord Beaverbrook and Central Memorial. In the fall of 1968, approximately 12% of the high school population were enrolled in this Program.

The Annual Report for 1968 lists expenditures for new composite high schools, additions to existing schools to house vocational education programs; and preliminary site preparation for schools in this way.

New:	
Central Memorial	\$4,097,665.00
Dr. E. P. Scarlett	\$ 39,512.00
Forest Lawn	\$1,124,858.00
Lord Beaverbrook	\$ 903,711.00
Sir Winston Churchill	\$1,200,031.00
Shaughnessy Secondary Vocational	\$ 35,202.00
Van Horne Secondary Vocational	\$ 7,311.00
TOTAL	\$7,408,390.00
Additions:	
Crescent Heights	\$ 348,757.00
Ernest Manning	\$ 10,156.00
Viscount Bennett	\$ 9,371.00
Western Canada	\$ 364,754.00
TOTAL	\$ 733,038.00
Sites:	
*Central Memorial & Shaughnessy	\$ 74,291.00
James Fowler	\$ 9,000.00
TOTAL	\$ 83,291.00

* Central Memorial & Shaughnessy are located on adjacent lots between 51 and 53 Avenue and 21 and 23 Street South West.
(Calgary Public School Board Annual Report, 1968)

In the 12 senior high schools that offered a program in technical and industrial vocational education, there were 97 qualified vocational education teachers who taught these programs. In addition to these 97 teachers, there were 3 qualified vocational education teachers who taught in the two secondary-vocational schools.

The School Board in its Annual Report for 1968 includes enrollment statistics which show the number of students registered in each vocational education course. These enrollments are presented in the following table.

TABLE 9
1ST, 2ND AND 3RD YEAR ENROLLMENTS
TECHNICAL AND INDUSTRIAL VOCATIONAL COURSES
1968-69

COURSE	YEAR			TOTAL
	1	2	3	
Autobody	19	19	7	45
Automotives	729	222	83	1034
Beauty Culture	71	34	29	134
Building Construction	405	91	6	502
Commercial Art	96	22	14	132
Drafting	878	219	58	1155
Electricity	634	79	22	735
Electronics *		119	52	171
Food Preparation	107	31	4	142
Graphic Arts	101	29	18	148
Machine Shop	189	66	30	285
Plastics ¹	34			34
Sewing & Design	46	22	24	102
Welding	48	14	10	72
TOTALS	3405	996	367	4768

1 Plastics was a new course added this year.

(Calgary School Board Annual Report, 1969)

Fifty-one Grade XII students throughout the system were awarded Calgary Public School Board Technical, Senior Vocational or Business Education Scholarships to continue their education at the post secondary level or to register in an approved apprenticeship that would confirm indenture and eventually lead to journeyman certification.

It was during this school year that Dr. J. D. Harder, Consultant in Vocational Education of the Department of Education presented his "Rationale for Industrial Education" to the members of the Specialist Council at their Annual General Meeting that was held in Red Deer. This Rationale and its' implications for vocational education and industrial arts is discussed in Chapter VIII of this report.

THE 1969-70 SCHOOL YEAR

Forest Lawn and Sir Winston Churchill High Schools opened in September but the technical and industrial vocational facilities in both schools did not open until the second semester. These two composite high schools became the eighth and ninth that were equipped and staffed to offer sequential courses from the 15 vocational education courses that were available in the system. Four other high schools continued to offer basic education courses and first year vocational education courses.

Construction of Dr. E. P. Scarlett High School began and staff committees were assigned the responsibility for preparing equipment lists for this school.

The 1969 Annual Report of the School Board shows that expenditures were made for new construction or the construction of additions at the following composite high schools:

New Construction:

Central Memorial	\$ 859,764.00
Dr. E. P. Scarlett	\$1,215,951.00
Forest Lawn	\$2,073,067.00
Lord Beaverbrook	\$ 113,009.00
Sir Winston Churchill	\$2,316,020.00
TOTAL	\$7,077,811.00

Addition:

Bowness Composite High	\$ 21,041.00
TOTAL	\$ 21,041.00

With the addition of Dry Cleaning and Practical Nursing during this school year, the compliment of vocational education courses increased to 17.

In the 11 composite high schools and the two secondary-vocational schools there were 127 teachers who taught either a technical or industrial vocational education class. Of this number 107 teachers had less than two years teaching experience; 40% less than 3 years and 65% of the teachers had less than 5 years experience in the classroom.

Monthly meetings of department heads continued to permit a transfer of information between schools and establish favourable settings for teaching and learning.

The School Board in its' 1969 Annual Report presented student registrations for the various technical and industrial vocational courses that were offered in the 11 senior high schools and in the two secondary vocational schools of the system. Data in table 10 show a break down of these registrations according to year in the program.

TABLE 10
1ST, 2ND AND 3RD YEAR ENROLLMENTS
TECHNICAL AND INDUSTRIAL VOCATIONAL COURSES
1969-70

COURSE	YEAR			TOTAL
	1	2	3	
Autobody	119	8	15	142
Automotives	850	185	107	1142
Beauty Culture	124	51	16	191
Building Construction	319	75	45	439
Commercial Art	35	30	11	76
Drafting	752	207	73	1032
Dry Cleaning ¹	12			12
Electricity	682	78	36	796
Electronics *		120	62	182
Food Preparation	140	44	26	210
Graphic Arts	108	38	18	164
Machine Shop	82	40	29	151
Plastics	13	7		20
Practical Nursing ¹	21			21
Sewing & Design	46	28	13	87
Sheet Metal	45	15	12	72
Welding	67	25	8	100
TOTALS	3415	951	471	4837

* See note of explanation at bottom of table 8 page 101

¹ Dry Cleaning and Practical Nursing were two new courses added this year.

(Calgary School Board Annual Report, 1970)

The follow-up study of vocational education graduates which began in 1966 continued to be conducted during this school year. Statistical information from these studies appeared to be more significant with each

study, by 1969 there were 1078 students who graduated from the technical and industrial vocational programs. By combining the results of the 1969 study with the results of previous studies, it was found that for the four graduating classes, approximately 70% of the graduates had elected to either further their education or enter the world of work in an occupation that was related to their high school technical or industrial-vocational education.

Sixty-five Calgary Public School Board Technical, Senior Vocational and Business Education Scholarships were awarded to graduates in 1969, as an incentive to encourage them to follow the educational route they had pursued in high school.

THE 1970-71 SCHOOL YEAR

Dr. E. P. Scarlett High School opened in September with only Drafting and Graphic Communications as the two technical or industrial-vocational courses that were available, with the idea that additional courses would be offered as the student population of this school increased.

One new composite high school, John Diefenbaker at 6220 - 4 Street North West was planned to the construction stage in 1970.

The Calgary Public School Board Annual Report for 1970 shows that monies were allocated for new construction, additions or site improvement to the following composite high schools.

New Construction:

Central Memorial	\$ 14,013.00
Dr. E. P. Scarlett	\$1,990,690.00
Forest Lawn	\$ 693,338.00
John Diefenbaker	\$ 429,362.00
Lord Beaverbrook	\$ 9,561.00
Sir Winston Churchill	\$ 823,828.00
TOTAL	\$3,961,792.00

Additions - Upgrading:

Ernest Manning	\$ 7,178.00
Henry Wisewood	\$ 6,415.00
TOTAL	\$ 13,593.00

Sites:

Dr. E. P. Scarlett	\$200,000.00
James Fowler	\$ 25,900.00
John Diefenbaker	\$ 58,560.00
TOTAL	\$289,460.00

(Calgary Public School Board Annual Report, 1970)

In the 12 composite schools and the two secondary vocational schools there were a total of 139 qualified vocational education teachers who taught either a technical or an industrial vocational class. Eighteen of these teachers taught in the two secondary vocational schools.

During this school year, Pipe Trades was offered for the first time. With the addition of this course, there were 18 vocational education courses that were available to high school students.

TABLE 11
1ST, 2ND, AND 3RD YEAR ENROLLMENTS
TECHNICAL AND INDUSTRIAL VOCATIONAL COURSES
1970-71

COURSE	YEAR			TOTAL
	1	2	4	
Autobody	111	32	7	150
Automotives	943	340	96	1379
Beauty Culture	161	69	31	262
Building Construction	377	79	35	491
Commercial Art	57	28	19	104
Drafting	705	229	67	1001
Dry Cleaning	24	13		37
Electricity	633	86	80	799
Electronics *		105	51	156
Food Preparation	121	50	28	199
Graphic Arts	107	43	21	171
Industrial Arts	359	88	1	448
Machine Shop	154	20	22	196
Pipetrades	34	16		50
Plastics	18	5	7	30
Practical Nursing	68	10		78
Sewing & Design	70	26	23	119
Welding	144	34	15	193
TOTAL	4140	1285	510	5935

* See explanatory note at the bottom of table 8 page 101.
(Calgary School Board Annual Report, 1970)

In comparing student enrollment for 1970-71 with 1969-70 it was found that high school enrollment increased by 6.04%, while student credit enrollments in vocational educational courses increased by 18.5%. This

indicated that a larger portion of the high school population chose technical and industrial vocational courses in 1970-71 than in 1969-70. This increase in enrollment could be partly attributed to the fact that when "industrial education" with its five credit modules was brought on-stream in September of this school year, more matriculation students were able to elect a five credit module in a vocational education course instead of a twenty credit course.

Systematic surveys of graduates that had been conducted since 1966 show that 1477 graduated from the technical and from the industrial vocational program. Approximately 65% of those who graduated from these programs elected to further their education or to select employment in an occupation related to the vocational education they had taken in high school.

In 1970 there were 71 Grade XII students who were awarded C.S.B. Technical-Vocational and Business Education Scholarship which was payable when the graduate registered and attended a course of at least one year duration. This course could be taken at either an approved post secondary institution or the recipient could register in an approved apprenticeship program.

Structured information from the Calgary School Board appeared in major form with the publication of annual reports in booklet form until 1971. However, by 1969 the Calgary School Board produced a paper called "Continuous Progress" in which the Calgary School Board requested public input into the form and content of future annual reports. The advertisement suggested that in the past, the annual booklets had provided information to parents who were tax payers, as the booklets were distributed to students only, and therefore did not inform all tax payers.

The future makeup was proposed to be in a similar form to the "Continuous Report" which was a 16 page foldover. Subsequent annual reports diminished in size and informational content during 1971, 1972, 1973 and 1974. By 1975, the annual report had become a four page foldover release via the Calgary Albertan and a two page insert in the Calgary Herald.

Statistical information and course enrollments disappeared from the annual reports during the period 1970-1974. By 1975 the annual report was no more than a financial statement. Information that had been compiled by schools and central administration was no longer made available locally and so in order to continue the recording of events and statistics within the system, a new source of information had to be acquired. This information, although produced in a modified form, fortunately was made available from the office of Mr. R. H. Cunningham, Inspector and Administration Consultant, Field Services Branch Department of Education in Edmonton.

However, Mr. Cunningham was out of Canada on a foreign posting in the early part of the period (1971-72) and records of grants paid were not maintained during his absence.

The tables which follow were taken from the Annual Statistical Information reports issued by the Department of Education pertaining to Senior High Schools in Calgary, offering vocational education programs and covering the years 1973 to 1980 inclusive.

Prior to 1973 information on operating grants paid to school boards in support of vocational education was made available to central office personnel or to high school administration only. Tables 12, 13, 14 and 15 Vocational Operating Grants 1973-1980 shows that Department of Education made every effort to keep abreast of the inflationary spiral by increasing the facility grant and the student grants paid to schools that had a vocational education program.

During the year 1971 John G. Diefenbaker Senior High School was constructed with an anticipated capacity of 1000 students at a cost of \$1,831,945.00 which included some industrial arts facilities but no funds for vocational education. (Calgary School Board Annual Report, 1971, p.21)

TABLE 12
CALGARY SENIOR HIGH SCHOOL ENROLLMENT
AND VOCATIONAL GRANTS PAID

SCHOOL	1973-74		1974-75	
	TOTAL ENROLLMENT	VOCATIONAL GRANT	TOTAL ENROLLMENT	VOCATIONAL GRANT
Bowness	891	\$ 25,040	1075	\$ 23,356
Central Memorial	1370	\$ 49,817	1371	\$ 58,864
Crescent Heights	1323	\$ 52,595	1475	\$ 43,892
E. P. Scarlett	1152	\$ 29,567	1223	\$ 25,052
Ernest Manning	1419	\$ 73,516	1373	\$ 68,358
Forest Lawn	1389	\$ 39,040	1455	\$ 46,988
Henry Wisewood	1516	\$ 2,960	1524	\$ 1,904
James Fowler	1382	\$ 69,401	1383	\$ 62,385
Lord Beaverbrook	1942	\$126,556	2024	\$ 132,900
Queen Elizabeth	570	\$ 800	570	\$
Shaughnessy	508	\$ 87,728	501	\$ 98,768
Sir Winston Churchill	1213	\$ 23,606	1365	\$ 29,800
Van Horne	518	\$ 90,663	511	\$ 102,519
Viscount Bennett	988	\$ 12,400	894	\$ 15,291
Western Canada	1387	\$ 26,463	1412	\$ 33,901
William Aberhart	1052	\$ 11,600	1029	\$ 17,888
TOTALS	18620	\$721,752	19185	\$ 761,866

(R. H. Cunningham, Statistical Reports 1973-74, 1974-75, Department of Education, Edmonton)

TABLE 13
CALGARY SENIOR HIGH SCHOOL ENROLMENT
AND VOCATIONAL GRANTS PAID

SCHOOL	1975-76		1976-77	
	TOTAL ENROLLMENT	VOCATIONAL GRANT	TOTAL ENROLLMENT	VOCATIONAL GRANT
Bowness	816	\$ 27,649	808	\$ 34,166
Central Memorial	1372	\$ 67,411	1327	\$ 65,957
Crescent Heights	1617	\$ 54,982	1814	\$ 71,085
E. P. Scarlett	1285	\$ 36,375	1400	\$ 50,397
Ernest Manning	1361	\$ 65,787	1270	\$ 79,749
Forest Lawn	1590	\$ 58,070	1605	\$ 75,652
Henry Wisewood	1530	\$ 6,089	1524	\$ 9,910
James Fowler	1433	\$ 75,891	1452	\$ 81,971
Lord Beaverbrook	2107	\$155,065	2114	\$ 174,862
Queen Elizabeth	544	\$ 1,164	570	\$
Shaughnessy	413	\$ 91,236	565	\$ 100,531
Sir Winston Churchill	1451	\$ 44,487	1526	\$ 55,459
Van Horne	416	\$ 81,208	560	\$ 145,027
Viscount Bennett	888	\$ 16,102	826	\$ 17,952
Western Canada	1361	\$ 70,949	1400	\$ 39,089
William Aberhart	1054	\$ 18,430	1012	\$ 26,656
TOTALS	19238	\$870,895	19773	\$1,028,463

(R. H. Cunningham, Statistical Reports 1975-76, 1976-77, Department of Education, Edmonton)

TABLE 14
CALGARY SENIOR HIGH SCHOOL ENROLMENT
AND VOCATIONAL GRANTS PAID

SCHOOL	1977-78		1978-79	
	TOTAL ENROLLMENT	VOCATIONAL GRANT	TOTAL ENROLLMENT	VOCATIONAL GRANT
Bowness	808	\$ 33,769	833	\$ 41,462
Central Memorial	1190	\$ 78,313	1152	\$ 104,050
Crescent Heights	1826	\$ 94,932	1705	\$ 100,575
E. P. Scarlett	1580	\$ 51,581	1558	\$ 56,400
Ernest Manning	1167	\$ 83,184	1066	\$ 76,494
Forest Lawn	1152	\$ 78,387	1557	\$ 97,914
Henry Wisewood	1594	\$ 6,188	1751	\$ 13,192
James Fowler	1456	\$ 88,045	1462	\$ 93,619
Lord Beaverbrook	2181	\$ 209,111	2195	\$ 167,660
Queen Elizabeth	582		578	
Shaughnessy	567	\$ 184,360	565	\$ 183,505
Sir Winston Churchill	1581	\$ 63,721	1675	\$ 77,259
Van Horne	599	\$ 165,185	652	\$ 195,706
Viscount Bennett	820	\$ 22,625	714	\$ 23,030
Western Canada	1321	\$ 51,958	1233	\$ 45,169
William Aberhart	952	\$ 29,772	973	\$ 30,240
TOTALS	19376	\$1,241,131	19669	\$1,306,275

(R. H. Cunningham, Statistical Reports 1977-78, 1978-79, Department of Education, Edmonton)

TABLE 15
CALGARY SENIOR HIGH SCHOOL ENROLMENT
AND VOCATIONAL GRANTS PAID

1979-80		
SCHOOL	TOTAL ENROLLMENT	VOCATIONAL GRANT
Bowness	775	\$ 43,703
Central Memorial	1132	\$ 110,963
Crescent Heights	1786	\$ 141,927
E. P. Scarlett	1585	\$ 78,498
Ernest Manning	997	\$ 95,917
Forest Lawn	1491	\$ 101,595
Henry Wisewood	1705	\$ 12,896
James Fowler	1530	\$ 123,237
Lord Beaverbrook	2229	\$ 158,649
Shaughnessy	599	\$ 216,469
Sir Winston Churchill	1713	\$ 87,819
Van Horne	659	\$ 223,710
Viscount Bennett	660	\$ 17,798
Western Canada	1073	\$ 44,264
William Aberhart	951	\$ 24,274
TOTALS	18885	\$1,481,719

(R. H. Cunningham, Statistical Reports 1979-80, Department of
Education, Edmonton)

THE PRE-VOCATIONAL PROGRAM
(JUNIOR ACADEMIC VOCATIONAL PROGRAM)

The Pre-Vocational Program that was in existence from 1913 until 1935 is not to be confused with the Pre-Vocational Program that was one of the five routes to a high school diploma that was put-in-place in 1962 under the leadership of Dr. R. Warren.

Within the Calgary Public School System, the Pre-Vocational Program (1962) is referred to as the Junior Academic Vocational Program (J.A.V.) and these two titles are used interchangeably.

When vocational education became an integral program of the educational structure in 1963, a new avenue was opened for programming high school students by increasing their scope of choice. However this did not alleviate the problems which existed for students at the junior high school level who did not wish to cope with the academic program when they entered high school.

The J.A.V. Program was a carefully planned three year course of study that was designed to serve approximately 7% of the school population to meet the needs of those pupils who had experienced difficulty with regular classes in the lower grades through failure and frustration. The program was designed to place emphasis on academic subjects, personal growth, and sound basic training in a number of the service occupations through which the student would rotate, with future development of the pupil being a major concern.

It was anticipated that the majority of students in this program would leave school at the end of Grade IX, with good personal attributes and work habits. Boys enrolled in this program would rotate through the following courses: Building Construction, Building Sub-Trades, Small Engine Repair, Service Station Operation and Metals. Girls in the J.A.V. Program would rotate through Home Care, Child and Nursing Care, Nursing Assistants, Beauty Culture, Sewing and Cooking. Courses in which both boys and girls could

enroll were common courses including: Business and Merchandising, Greenhouse and Gardening, Arts and Crafts and Commercial Foods. (Calgary School Board-Progress Report, 1969, p.6)

The program was designed so that the student during the first year, would rotate through a variety of shops; in the second year the number of shops that the student rotated through was reduced to 4; and in the third year the student would only rotate through 2 shops. It was estimated that by 1965 there would be 1200 students enrolled in this Program.

When Ernest Manning and James Fowler Composite High Schools opened in September, 1963, the integration of one grade per year left space available for other students. As a direct result, nine classes of J.A.V. students were registered (250 students) and were distributed among the following high schools: Ernest Manning (3 classes); James Fowler (3 classes); and the following junior high schools received one class each: Elboya, Fairview and David Oughton.

However, this Program did not proceed smoothly because Mr. Jerry Burden, a School Board Trustee in his remarks to several meetings of the Board indicated displeasure and disapproval of the Program because it streamed students from Grades VII to IX from an academic pattern to a vocational pattern. He repeatedly called for the abandonment of the Program because it would lead students to a dead end - unemployment. As an alternative to the program this trustee suggested that these students be provided with special academic classes.

Parents who attended these meetings were concerned that this critic did not consider those parents who had slow learning children in the Program and were satisfied with their progress.

Trustee Glen Holmes, Chairman of the Board, pointed out that Mr. Burden in his discussions, omitted several important points which had a bearing on the "junior program". These points were: entry into had been 100% voluntary; over subscription of the program in 1963 and 1964; the provincial

government had recognized a need for the Program and was prepared to pay 100% of approved capital costs; and crossover to the regular academic programs would be permitted whenever justified by student achievement.

The ongoing debate among School Board members and lobbying parents concerning the merits vs. demerits of the Junior Academic Vocational Program became so inflamed that the Calgary Public School Board took the issue to the public by means of an information release that was placed in the Calgary Herald, 2 July, 1964. In its release, the Board pointed out that the Program was designed to accommodate between 5 and 8 percent of the junior high school population who had not responded successfully to the standard Programs while in the elementary grades; that a similar Program had been in place for over 20 years in Toronto and Hamilton and had been recently approved by educators in Vancouver and Edmonton to be incorporated into their educational offerings; that the federal and provincial governments accepted the need for this Program and were willing to pay 100% of approved capital costs; and that students who achieved successfully had the right to crossover to an academic Program.

Approximately ten months later (April 1965) the School Board became engrossed in controversy with the Program when its members became sharply divided on the recommendation that the Program be extended from a three year Program to a four year Program. The members of the board were so evenly divided on this issue that the Chairman of the Board was forced to cast the deciding vote in favour of making the Junior Academic Vocational Program a four year Program. (Calgary Herald, 17 April, 1965)

In September 1965 parents held a protest meeting, charging that facilities for the Program were sadly lacking. At this meeting, resolutions were passed asking the Board take immediate action to improve the course content and the facilities at James Fowler and Central High Schools. Trustees authorized the purchase of four portable classrooms at a cost of \$44,000.00 each and supplies and equipment worth \$16,500.00 to placate these parents.

Students from the Program were housed at the two composite high schools until the 1966-67 school year when Van Horne Secondary Vocational School opened and at other schools until the 1967-68 school year when Shaughnessy Secondary Vocational School opened. In the interim, the old Central High School was used to accommodate J.A.V. students from the South side. In September 1965 there were 100 students who could not be admitted to the Program because space was lacking to accommodate them. (Calgary Herald, 30 September, 1965)

During the 1967-68 school year there were 947 students enrolled at the two secondary vocational schools where vocational areas for boys included: Carpentry, Building Maintenance, Small Motor Repair, Service Station Operation, Landscaping and Gardening, Food Preparation and Service or Business and Merchandising. All of the courses were locally designed courses that were adapted to the needs of the student clientele in these schools. These courses were approved by the Department of Education. The pupil-teacher ratio in the schools that offered this Program was relatively low because of the nature of the program and the nature of the student. The following chart shows the pupil-teacher ratio for the 1967-68 school year.

SCHOOL	GRADE	PUPIL	TEACHER	RATIO
Shaughnessy	VII	138	6	23:1
	VIII	116	5	23:1
	IX	111	5	22:1
Van Horne	VII	168	7	24:1
	VIII	158	7	23:1
	IX	127	5	25:1
TOTAL		818	35	23.3:1

TABLE 16
JUNIOR ACADEMIC VOCATIONAL HIGH SCHOOL ENROLLMENT

	65-66	66-67	67-68	68-69	69-70	70-71
Shaughnessy	326	335	379	442	494	476
Van Horne	<u>346</u>	<u>413</u>	<u>472</u>	<u>510</u>	<u>507</u>	<u>512</u>
TOTALS	672	748	851	952	1001	988
	71-72	72-73	73-74	74-75	75-76	76-77
Shaughnessy	504	500	508	501	413	565
Van Horne	<u>529</u>	<u>489</u>	<u>518</u>	<u>511</u>	<u>416</u>	<u>560</u>
TOTALS	1033	989	1026	1012	829	1125
	77-78	78-79	79-80			
Shaughnessy	567	565	599			
Van Horne	<u>599</u>	<u>652</u>	<u>659</u>			
TOTALS	1166	1217	1258			

(Annual Statistical Information Reports, Department of Education, 1965-1980 inclusive)

Enrollments in the Program continued to grow during the 1969-70 school year and the student populations at both Shaughnessy and Van Horne approached the one thousand mark which meant that these two schools were operating at full capacity. The acceptance of this type of program by students and parents exceeded the expectations of the central administration. Enrollment statistics for these two schools for the 1969-70 school year were reported in the 1969 Annual Report in this way.

SCHOOL	GR. VII	GR. VIII	GR. IX	TOTAL
Shaughnessy	152	165	162	479
Van Horne	166	168	151	485
TOTALS	318	333	313	964

(Calgary School Board Annual Report, 1969, p.25)

The two secondary vocational schools continued to offer courses of studies at the 15, 25 and 35 level. These schools operated at full capacity, offering pupils 12 business and vocational education subjects balanced with a basic academic program.

By September 1970, between 5 and 6 percent of the junior high school students (988) were enrolled in the J.A.V. Program.

By the middle of October 1972 another 45 students had been admitted to these two schools, bringing the two school population to 1033 students. There were an additional 750 students who were unable to be accommodated because of lack of space.

THIRD J.A.V. SCHOOL PLANNED

The School Board decided to build a third J.A.V. school, and began to make plans for the Eastern Junior Academic Vocational High School, to be located in the Forest Lawn area. Because the provincial government placed a moratorium on the construction of new schools, except in cases of critical need, the costs of constructing this school did not appear in the budget until later in the decade.

By 1972 the Program had been in existence for ten years which permitted central office administrators to compile evidence to support their position that the program filled a definite as well as a special need. On the strength of the general acceptance of the Program, the School Board prepared another brief that was presented to the provincial government asking for permission to build the third secondary vocational school. (Calgary Herald, 21 October, 1972)

In March 1974 the Board's Education Committee unanimously approved administration's recommendations that the third J.A.V. High School be built and hoped that by the fall of 1975 the school would be ready and the new Four Year Secondary Vocational Program would be in place. The Grade VII to IX J.A.V. schools were changed to become Grade VIII to XI Secondary Vocational schools. September 1975 saw phase 1 of the changeover initiated, with Grades VIII to X vocational classes being housed in the two existing facilities, and the introduction of new locally developed programs of study. (Calgary Board of Education, Annual Report, 1975, Published Calgary Albertan, 9 April, 1976, p.9) Although this school was mentioned in the 1975 capital budget construction costs were not specified. However estimated costs for improvements to Shaughnessy (\$1,221,400.00) and Van Horne (\$1,127,500.00) were included in that budget.

Trustees also made the decision to proceed with the recommendation of the administration that beginning in the fall of 1975 and over a four year period the Three Year Secondary Vocational Program be changed to become educationally more mature and better equipped to compete on the job market. Or, it would permit the student to transfer to a composite high school to complete credit requirements for a diploma. (Calgary Herald, 28 March, 1974)

OPPOSITION TO LOCATION OF SCHOOL

Initially, the Board planned to build its third J.A.V. school in the Marlborough area and have it completed by September 1980. But because of pressure from the residents of the Marlborough Community area an alternate site was selected in Forest Lawn. There was opposition to the Forest Lawn location because both Forest Lawn Senior High School and Ernest Morrow Junior High School were located on the same site. With the new school located on the same site, there would be over 3000 students in a confined area. This school was desperately needed because of those students who needed the program but were unable to enroll because of the lack of facilities.

The controversy over the location of this school ended when City Council and the School Board agreed to exchange land that each other owned. The City exchanged seven acres of land it owned for an equal amount of land that the Board owned in Thornhill and Acadia.

The Board announced its' plans to build the \$5,800,000 school in Forest Heights. Following protest from the residents of this community, and looking into an alternate site in the Dover area, the Board made the decision to build the school in Forest Heights. (The Albertan, 22 January, 1980)

The third Secondary Vocational School, Jack James opened during the 1981-82 school year with the majority of students coming from the immediate surrounding area. When this school opened, it became the third school in the system to offer the Four Year Secondary Vocational Program. Students could only enter this Program if their principals, parents, and teachers felt it was the best route for them to take in preparation for employment or post secondary education. The Programs aims were intended to create a climate for learning which would help students to develop concepts of dignity and personal worth; to assist students to become more confident and secure in the knowledge that they can achieve and contribute in a worthwhile manner; and to develop positive attitudes towards the school and themselves.

Data in table 17 shows the amount of instructional time of the four year program that is devoted to the academic and vocational phases of the program.

TABLE 17
JUNIOR ACADEMIC VOCATIONAL PROGRAM INSTRUCTIONAL
TIME ACADEMIC/VOCATIONAL

PROGRAM PLAN	ACADEMIC	VOCATIONAL	TOTAL
Year One	750 hours	8 shops-rotate 250 hours	1000
Year Two	500 hours	4 shops-rotate 500 hours	1000
Year Three	500 hours	2 shops-rotate 500 hours	1000
Year Four	500 hours	2 shops-rotate 500 hours	1000
TOTAL	2250 hours	1750 hours	4000

(Jack James Secondary School Timetable, 1982)

CHAPTER VI
AN OVERVIEW OF
INDUSTRIAL ARTS IN CALGARY PUBLIC SCHOOLS

INTRODUCTION

The previous chapter traced the evolution of vocational education in the Calgary Public School System through the building program to construct composite high schools. A section of that chapter was devoted to the Junior Academic Vocational Program (Pre Vocational Program) and the expansion of that Program in order to serve the needs of more students.

It should be evident to the reader from the content of Chapter V that the School Board, through its officials, took advantage of conditional funds that were made available by federal and provincial governments to build composite high schools to accommodate vocational education programs of study.

This chapter will include a brief overview of industrial arts in the system because in 1969 industrial arts and vocational education were placed under the umbrella term of "Industrial Education".

For a more thorough analysis of the development of the multiple activity organizational pattern for industrial arts from a provincial perspective read Smith (1973) The Development of Industrial Arts Multiple-Activity in Alberta.

AN HISTORICAL OVERVIEW

The history of industrial arts in Alberta can be traced to 1901 when Calgary was selected as one of the twenty-one centers across Canada for the implementation of the MacDonald Manual Training Plan. Since then this program has evolved through manual arts, with drafting, sheet metal, forging, and machine shop as the main areas of instructional content progressing to industrial arts "technical courses" in woodwork, metalwork,

electricity, and motor mechanics and latterly, to the Alberta Plan with its emphasis on materials and common technologies found in a productive society.

The Manual Arts Program remained virtually unchanged until 1936-37, when the Department of Education reorganized the grade structure by taking Grade IX from the high school grades and placing it with Grades VII and VIII to form the junior high school grades. (Smith, 1973, p.49) Another innovation that took place during this school year was the introduction of the "credit" system which made it mandatory for students to attend school. Credits and instructional time became congruent with one credit being assigned for each thirty-five minutes of instructional time per week. To graduate from high school with a diploma, one hundred credits were required. Thirty five of these credits had to be in the compulsory subjects of English and Social Studies. In addition to these two subjects, all Grade X students were required to take Health and Physical Education I, Mathematics I and Science I. (Smith, 1973, p.57) A number of manual training teachers became critical of what they were teaching because they felt the program was largely based on woodwork and that its scope was too narrow.

During the 1938-39 school year manual arts became general shop in the high schools of the province. The content of the course was broadened to include a variety of learning activities in woodwork, metalwork, electricity, automotives and farm mechanics. In General Shop II the same units were available as well as units in gas engines and plastics. During this period, general shop was available for Grades VII, VIII and IX.

In 1940 the high school program had a major overhaul with the adoption of a program that required few compulsory subjects and a number of technical electives that included: woodwork, metalwork, electricity, automotives, and arts and crafts. (Department of Education, Annual Report 1944, pp.10-12)

Many of the industrial arts shops which operated in the late 40's and during the decade of the fifties in Calgary were considered to be unit shops: that is, each shop in the school was designed and equipped following an industrial arts curriculum with one subject orientation. That is, one

shop, one teacher teaching one subject for example - carpentry. In this learning environment, the learning activities generally included the machine tools and hand tools used to cut, shape, form, assemble and finish one material; in the case of carpentry - wood.

At the provincial level there was a realization that other materials than wood could be used to provide the learner with exploratory experiences. In his 1950 Annual Report, R. Byron, Supervisor of Industrial Arts wrote:

There is an increasing realization of the exploratory value of industrial arts courses and of the need for experiences in places other than woodwork, which has been the traditional and popular medium. Electricity, metalwork, concrete work and crafts, including leatherwork, plastics and book binding are being treated with increasing success. A major purpose of such success is to familiarize pupils with the raw materials, products and processes of industry, and it would be unfortunate to limit such experiences to woodwork. (Department of Education, Annual Report, 1950, p.66)

During the early part of the fifties, considerable effort had been made by Department of Education personnel to revise industrial arts courses at the high school level on both a unit and credit basis and to revise course outlines for courses that had been revised. These course outlines were prepared by a group of industrial arts teachers selected by the Department of Education.

According to information in the 1952 Annual Report, the following courses were rewritten on a unit basis and credit values changed for these courses.

Woodwork 1 (8 credits) and Woodwork 1a (4 or 5 credits) to Woodwork 10 (4 or 5 credits);
Metalwork 1 (8 credits) and Metalwork 1a (4 or 5 credits) to Metalwork 10 (4 or 5 credits);
Electricity 1 (8 credits) and Electricity 1a (4 or 5 credits) to Electricity 10 (4 or 5 credits);
Automotives 1 (8 credits) and Automotives 1a (4 or 5 credits) to Automotives 10 (4 or 5 credits);
(Department of Education, Annual Report, 1952-53, p.54).

The Annual Report for 1954 shows that interim course outlines were prepared for the following courses.

Industrial Arts Grades VII, VIII and IX
Woodwork 10, 21, 20, 30
Electricity 10, 21, 20, 30
Metalwork 10, 21, 20, 30
Automotives 10, 21, 20, 30
Arts and Crafts 10, 20, 30
Printing 10, 20
Drafting 10, 20
(Department of Education, Annual Report, 1954, p.46).

During the decades of the fifties, industrial arts at the junior high school level was taught in a general shop and the program was largely exploratory. In the high schools, this program was taught in a unit shop with an ever-increasing emphasis on a vocational or occupational orientation.

INDUSTRIAL ARTS IN CONFLICT

Members of the public were critical of the high school industrial arts program. According to Smith (1973), the former Chairman of the Calgary Public School Board was most vocal that the program be revised considerably by the Department of Education or dropped by the School Board. Bliss was quoted in The Calgary Herald as saying:

As the curriculum is laid out now, the course is not being used for the purpose for which it was intended and it does not seem to lead anywhere.

The students don't get any credit on the high school shop courses when they enter the Southern Institute of Technology and Art and I don't think industry gives much recognition to them. (The Calgary Herald, 8 April, 1961).

Mr. Bliss took the position that money being used for the shop courses as they existed could be better spent. Central administration was given the responsibility to prepare a report on this problem and the final report was to be discussed by the Board prior to any action being taken. A close look

at shop courses, both industrial arts and technical electives indicated these courses were not serving the purpose for which they were intended. Many of the students taking these courses were matriculation type students. For some shop courses, pre-requisites were matriculation subjects, and the academic ends of the technical electives were the same as that for matriculation subjects.

Another problem which had to be addressed by school boards of the province, when the Technical Vocational Training Assistance Agreement was signed, was whether to build separate vocational schools or to build composite high schools. The Calgary Public School Board took the position that composite high schools should be built.

In the 15 April, 1961 issue of The Calgary Albertan there was an editorial that indicated that the Calgary Public School Board was studying the advisability of modifying or discontinuing the shop courses that were offered in high schools. The study had been initiated prior to the move to tighten the educational purse strings at the provincial level and the economic axe that was being wielded by Hooke - Aalborg - Batchelor provincially.

According to the editorial, it was more costly to build and equip an industrial arts laboratory than an ordinary classroom. Shop courses helped to lower academic educational standards by constituting a temptation to students who should be studying mathematics or literature instead of learning how to make ashtrays. The editorial approved the revision of courses so that they would become valuable to the extent that they would lead directly into employment upon graduation from high school or to fit those who had taken them for post-high school vocational or technical training.

With the advent of conditional federal funds to support vocational education, discontinuance for industrial arts became distinctively clear; that it would be prudent to revise and upgrade the curriculum that existed.

FROM UNIT SHOPS TO MULTIPLE ACTIVITY LABORATORIES

In 1962, two significant developments occurred on the educational scene in Alberta that had an impact on the organizational structure where industrial arts was taught. The first of these developments was the establishment of the Division of Industrial and Vocational Education at the University of Alberta. (This Division was later granted departmental status.) This Division was chaired by Dr. H. Ziel, whose philosophy was that industrial arts should be taught in a multiple activity laboratory because in a productive society, all occupations are interrelated and no occupation can stand alone. The second development was the transfer of the industrial arts program from the University of Alberta, Calgary Campus, to the University of Alberta, Edmonton Campus. The industrial arts program of study offered at the Calgary Campus supported the unit shop concept from the time it was first offered until it was phased out.

The training of teachers for multiple activity laboratories commenced in Edmonton during the 1963-64 academic year with the program structured in Calgary starting phase-out operations in 1965. No new applicants were enrolled in the Calgary program after the turn of 1964-65 academic year.

Ziel subscribed to the position that the teaching of industrial arts should occur in a multiple activity laboratory and that the industrial arts program should be organized into four phases with each phase having articulation with a previous phase with the product as a teaching vehicle. Phase I of this program would introduce Grade VII boys and girls to tools, machines, materials, and processes. Phase II would introduce Grade VIII and IX boys and girls to such technologies as Electronics, Computers, Mechanics, Power Transmission, Materials Testing and Graphic Communications and materials and processes of this last technology. Phase III of the four phase program would expose Grade X students to the many technological demands imposed upon organizations and their members as they function in a productive society. The last phase, Phase IV would be available to Grade XI and XII students and in this phase the student would select a mix of materials and technologies that he elected to study in-depth.

This program was used in organizing the teacher education program for industrial arts teachers at the University of Alberta and it also provided the foundation from which the Department of Education program in this subject area was developed. Today this program is referred to as the Alberta Plan.

A change in school board policy eliminated Industrial Arts for boys in Grade VII. Staff requirements were therefore reduced. Only one industrial arts teacher was appointed to the junior high program in 1962. Two industrial arts teachers were transferred from junior high school to the senior high school program.

From a supervisory point of view, much attention was focused on the two new academic-vocational schools that were under construction, but the schools with industrial arts programs in operation required attention to upgrade them to acceptable standards. Monthly meetings for these industrial arts teachers were held in the board rooms of Central office to deal specifically with their needs. The general opinion of central administration was that high school industrial arts teachers were doing a commendable job and that the physical facilities where these teachers taught, with only a few exceptions, could be classed as modern and up-to-date.

One of the major influences that had an impact on the shift from unit shops to multiple activity laboratories was the appointment of J. D. Harder to the Department of Education as Supervisor of Industrial Arts, effective 3 September, 1963. One of the first responsibilities that Harder completed, was to make a tour of the industrial art laboratories in the province to determine if the Industrial Arts program was meeting the needs of the students. Harder found that in most industrial arts shops, the program consisted mostly of woodwork, drafting and metalwork. In conducting this tour, Harder also visited Hillcrest Junior High School, Edmonton which served a dual purpose. (1) As a teaching laboratory where university students were taught their psychomotor skills and (2) as a multiple activity laboratory where students of the school were taught industrial arts.

From his findings, Harder was convinced that the multiple-activity environment for teaching industrial arts should be employed in Alberta.

Smith (1973) writes in The Development of Industrial Arts Multiple - Activity in Alberta that:

By Christmas of 1963, Harder had assessed the Alberta program, had observed the pilot project at Hillcrest and was prepared to recommend changes in the Alberta program. One of the first changes that he advocated was a revision of the Junior High School Curriculum Guide. (p.88)

The Director of Curriculum, M. Watts, approved the forming of a curriculum committee that was recommended by the Secondary School Curriculum Committee to revise the Junior High Curriculum Guide for industrial arts so that this program would be organized on a multiple activity basis for the province. Both Byrne and Coutts, as well as a number of superintendents and other school administrators through out the province, supported this new industrial arts program. One of the major pockets of resistance to this program was the Calgary Public School Board. The School Board did not complete it first industrial arts facility, organized as a multiple activity laboratory, until 1969 when the laboratory at Bishop Pinkham Junior High School opened.

THE JUNIOR HIGH SCHOOL INDUSTRIAL ARTS CURRICULUM SUB-COMMITTEE

The Junior High School Industrial Arts Curriculum Sub-Committee was formed under the leadership of the Department of Education with members of the Committee selected and directed by Mr. J. Harder. The Committee met early in December 1963 to enable committee members to identify some of the problems associated with the multiple activity environment for teaching industrial arts. This committee held subsequent meetings in 1964 to prepare a set of objectives for the new program which were to be in concert with the functional objectives of secondary education found in the Curriculum Guide

for Alberta Secondary Schools (1950). Since the multiple activity learning environment was new to many industrial arts teachers, a rather extensive description of the program was provided in the curriculum guide that was developed. In September 1969 the Department of Education published the Junior High School Industrial Arts Provincial Guide following five years of intensive committee work.

A revised curriculum guide for Junior High School Industrial Arts was published by Alberta Education in 1976 and outlined exploratory experiences in four fields of study; Communication, Materials, Power and Synthesizing. (Vocational Living Skills Report, 1979, IAA 312, p.D3) Members who served on this Committee were appointed by the specialist council of the Alberta Teachers Association and approved by Alberta Education.

In February 1977, the Program Evaluation Department of the Board conducted a study of the junior high school population and concluded in its findings that the industrial arts program was well received and was in high demand among these students. It was noted in these findings that 94% of the boys and 83% of the girls wished to take one or more than a year of industrial arts. (Vocational Living Skills Report, 1979, IAA 3.4, p.D5)

The revised industrial arts program was offered as an option to either boys or girls in Grades, VII, VIII and IX, depending on the availability of space to accommodate these students and staff. Teacher time was assigned on the number of boys in Grades VIII and IX only. However, since 1971 both girls and boys were allowed to take Junior High School Industrial Arts courses.

As of the 1978-79 school year, there were approximately 10,000 students enrolled in these courses; approximately 8,500 boys, and approximately 1,500 girls from a junior high school population of 19,900. According to these statistics, approximately 85% of the boys took industrial arts and 15% of the girls were able to take the program. (Vocational Living Skills Report, 1979, IAA 3.3, p.D4)

Alberta Education recommended that instructional time for an "A option" (Junior High School Industrial Arts) must be 75 hours per school year. That publication also recommended classes which required a large degree of individualized instruction and that had a high safety factor risk should not exceed 20 students. (Vocational Living Skills Report, 1979, IAA 3.4, p.d5)

Because of limited facilities and staff in some junior high schools, the number of hours for coursework in industrial arts were cut in order to meet student demand. In other schools, administrators were able to maintain class hours while students in some schools who requested industrial arts courses were turned away because of overcrowding. One third of the schools in the System offered the industrial arts program for less than the prescribed 75 hours teaching per year that was recommended by Alberta Education. One quarter of the junior high schools offered the Program with more than 18 students per class during the 1978-79 school year. Instruction was offered in Earths, Electricity - Electronics, Graphic Arts, Metals, Photography, Plastics, Power Mechanics and Woods.

To meet the standards established by the provincial curriculum for industrial arts, special facilities and equipment were needed or had to be upgraded to meet these standards.

In 1979 there were 20 junior high schools, all with unit shop facilities. Two of these 20 schools had no industrial arts facilities; 2 schools were awaiting major renovations; 4 schools were not recommended for upgrading because they were implicated in the School Closure Report of the School Board. All the remaining schools were placed on a schedule for upgrading unit shops to multiple activity laboratories.

Beginning in 1978, Alberta Occupational Health and Safety Regulations governing fire protection and shop ventilation standards were starting to be imposed on educational facilities in the province. These regulations impacted on industrial arts facilities where plastics, welding, woodworking, developing, engine running, wood finishing, and graphic communication activities were taught because of the necessity for ventilation of possible

toxic fumes. To comply with these regulations, and to bring laboratories up to compliance requirements, took a considerable amount of money on the part of the Board. Some of the funds that were allocated to upgrade unit shops to multiple activity laboratories were used to install dust collecting systems this caused a slowdown in the upgrading program.

The Curriculum Guide for junior high schools was revised in 1982 and is titled Junior High School Industrial Education Curriculum Guide and outlines modules and topics for the four fields of study: Materials, Power, Graphic Communications, and Synthesizing. (Alberta Education, 1982) Like its predecessor this revision was the result of a committee of industrial arts teachers nominated by the Specialist Council of the Alberta Teachers Association and selected and approved by personnel from Alberta Education.

SENIOR HIGH SCHOOL INDUSTRIAL ARTS

The Senior High School Industrial Arts Program was designed for students in Grade 10, 11 and 12 by providing them with a cross section of the materials, processes, and common technologies found in a productive society. These were organized into the following four fields of study: Electricity-Electronics, Materials, Power, and Visual Communications, and were divided into sixty modules. From these sixty modules, a student could select four modules to receive five high school credits. Timewise, each consisted of from 25 to 33 hours of course content.

Calgary, in 1972, began offering instruction in only two of the four fields of study; Materials and Visual Communications. These courses were offered only in Dr. E. P. Scarlett exclusively for Senior High School students. (Living Skills Report, 1979, IAA 3.8, p.D9)

During the 1978-79 school year there were 54 industrial arts teachers who taught the junior high school program and 6 teachers who taught the senior high program.

By 1979, only four composite high schools: Bowness, Dr. E. P. Scarlett, John Diefenbaker, and Viscount Bennett offered one or more of the four fields of study for high school industrial arts.

Data in the following table show the relationship of new industrial arts staff to new industrial art facilities that were added to the System from 1969 to 1979. It was during this decade that the transition was made from unit shops to multiple activity laboratories as the learning environment for industrial arts.

TABLE 18

NEW INDUSTRIAL ARTS STAFF AND FACILITIES
1969 - 1979

Year	New Staff	New Facilities
1969-70	8	1
1970-71	10	7
1971-72	7	3
1972-73	5	4
1973-74	10	1
1974-75	7	3
1975-76	8	3
1976-77	6	5
1977-78	15	4
1978-79	5	0
TOTAL	81	31

(Taken from Vocational Living Skills Report 1979, IAA 3.5, p.D6)

Staff for these new industrial arts facilities had been recruited from two major sources: graduates of the industrial arts program of study of the Department of Industrial and Vocational Education, University of

Alberta and staff from the district who desired to change their career pattern by becoming an industrial arts teacher. Teachers who requested this type of internal transfer, took a ten-week in-service program in industrial arts that was organized and presented by the Board. Before the transfer was considered, an evaluation of the teacher was made by a team which consists of the Supervisor of Industrial Arts from Central office and the Coordinator of Industrial Education, Alberta Education, Southern Region.

ALBERTA EDUCATION

CURRICULUM GUIDES

Curriculum Guides for the senior high school industrial arts program of study are the result of a committee that is selected by personnel of the Department of Education. Industrial arts teachers selected to serve on a curriculum committee are considered to have competency in either a material or a technology.

When the decision was made to accept the multiple activity organization pattern for industrial arts, all previous curriculum guides had to be rewritten because they were written for a unit shop. These Curriculum Guides at the senior high school level for industrial arts were designated as 10, Grade 10, 20, Grade 11, and 30, Grade 12.

Interim editions of the revised curriculum guides for "Industrial Arts General 10, 20, 30" and "Industrial Arts Materials 10, 20 30" were made available to teachers in September 1965. These were replaced later with Standard Curriculum Guides in September 1968. Curriculum Guides for "Industrial Arts Power Mechanics", were released by the Department of Education in September 1967. Both "Electronics 10, 20, 30" and the "Graphic Communication 10, 20, 30" Curriculum Guides were released in September 1966.

The Curriculum Guide for Production Science 30 became available to teachers during the 1975-76 school year. One year later, in 1976, revised

Curriculum Guides for "10, 20, 30" level courses became available for the following courses: Power Technology, Electricity/Electronics, Materials, Visual Communications (this course was previously titled Graphic Communication).

Because industrial arts and vocational education were brought under the term "Industrial Education" in 1969, the revised curricula were no longer titled "Industrial Arts" but were referred to as "Industrial Education Power Technology".

PROFESSIONAL DEVELOPMENT

Professional development for both industrial arts and vocational education teachers has been provided through workshops, seminars, and conventions held each year and sponsored by the Calgary Public and Calgary Separate School Boards as well as the Provincial Industrial Education Council of the Alberta Teachers' Association. Considered as part of professional development, was the graduate program offered by the University of Alberta through its Department of Industrial and Vocational Education. For this program professors from the Department travelled to Calgary to teach graduate courses using the facilities of the University of Calgary as well as providing supervision and guidance to graduate students from the Southern half of the province who were working on a thesis or a project. (Vocational Living Skills Report, 1979, p.D7)

CHAPTER VII

TEACHER PREPARATION

INTRODUCTION

Content of the two previous chapters dealt with vocational education and an overview of industrial arts in the Calgary Public School System. Teachers who teach in these two complimentary programs of study are certificated by the Department of Education through the Board of Teacher Education and Certification. The teaching certificate that these teachers receive after completing the university teacher preparation program is actually a license which grants them the privilege to teach in this province.

Alberta's three universities have a contract with the Board of Teacher Education and Certification to present the necessary program that will lead to certification. The Faculty of Education of the University of Alberta, through the Department of Industrial and Vocational Education, is responsible for preparing industrial arts teachers, vocational education teachers and teachers for non-university post secondary institutions.

The mix of courses that is used will be described in this chapter. Another section of this chapter will show the involvement of the Board in the teacher education program by providing tradespeople with bursaries to become vocational education teachers. Another section of this chapter will include a detailed description of the provincial bursary scheme that was used to entice trades people to become vocational education teachers.

NORMAL SCHOOL CLASSES BEGIN

The first normal school class to prepare teachers for the schools of Alberta was organized in 1894 in rooms over Jaques jewellery store in Calgary. Increased student enrollment necessitated the building of a new larger central school which was opened May 1905 at Fifth Avenue and First Street South West. This facility contained twelve rooms that were located

on three floors. In January 1906 the teacher training class was organized on the third floor of the building. The next year, classes attended the Provincial Normal School on Seventh Street and Fourth Avenue South West which is the current site of McDougall School. Normal School Classes remained at the Seventh Street site until 1922, when the Normal School operation was transferred to the Provincial Institute of Technology and Art. (From Slate Pencil to Instank Ink, 1975, 1975, p.39)

INDUSTRIAL ARTS TEACHER PREPARATION

In 1922 at the Provincial Institute of Technology and Art, the main building was used as a technical institute with classrooms and shops, while the West half of this building housed the Calgary Normal School. To provincial authorities, it appeared a logical move to provide an extension to the normal school program by including instruction for the preparation and upgrading of industrial arts teachers by having these individuals take several practical courses which were taught by instructors on the institute side of the school. This permitted some industrial arts teachers to acquire the practical skills they required but not all of these teachers were so fortunate.

Because of limited course offering during the summer session, those industrial arts teachers who wanted to further their education had no alternative but to attend a university in the United States. Graduate programs in industrial arts were non existent in Alberta's university.

Some of the studies that these teachers took while attending American universities, provided them with an introduction to the General Industrial Arts Program which was similar to a multiple activity laboratory for organizing the learning environment for teaching industrial arts. These teachers provided a nucleus of teachers who accepted the concept of the multiple activity laboratory when this organizational pattern was integrated into the Calgary Public School System in the early 60's when vocational education at the secondary school level came on stream.

In 1945 the University of Alberta Calendar stated that credits taken at universities outside of Alberta could be used for credits towards a degree in Alberta. During the following year this position was clarified in the calendar when it stated that because of the specialized nature of the industrial arts program (also including music and physical education) that few external credits from American universities could be granted toward an Alberta degree. (University of Alberta Calendar, 1946-47, p.224)

Industrial arts teacher education remained one of the programs of study at the Calgary campus of the University of Alberta until the 1963-64 academic year when it was transferred to the Edmonton campus. Phase-out of the Calgary program commenced during the 1964-65 academic year when no new applicants were accepted.

VOCATIONAL EDUCATION TEACHER PREPARATION

According to Program 7 of the T.V.T.A. Act, (Training Technical and Vocational Teachers) the Federal government would contribute 50% of provincial costs for programs that were approved and were in accord with the regulations of Schedule 7 of the Act. These regulations prescribed the eligibility of "trainees" which included full occupational competence in the field in which the trainee was to give instruction. Under the regulations of Schedule 7, the academic standing of an individual for admission to a teacher training program was left to provincial authorities. Also described in these regulations, were the kinds of training that were fundable under the Act, which included the preparation of both technical and vocational education teachers. According to this Act, this program was:

to provide training for occupationally competent persons in the art or science of teaching, supervising, or in the administration of technical or vocational training programs at all levels whether in industry, in vocational schools or in institutes. (Bill C49, p.6)

The Province of Alberta through the University of Alberta, Edmonton Campus, was the first university in Canada to take advantage of these funds

when it put in place the vocational education teacher preparation program of the university. When the decision was made to offer this particular program, it was decided that applicants to the program should meet the same admission requirements as other applicants to the university, which was senior matriculation. In addition to senior matriculation, vocational education teacher applicants had to have journeyman status in an apprenticeable trade or its equivalent as well as minimum five years of trade experience above the journeyman level which equated to nine years of trade experience - four years to be qualified as a journeyman plus five years of experience.

An Advisory Admissions Committee of the Faculty of Education was established at the university to assess applicants qualifications for admission to the teacher education program. This Committee included: The Dean of Education, the Chairman of the Division of Industrial and Vocational Education, the University Admissions Secretary, the Chairman of the Provincial Apprenticeship Board, and the Supervisor of Vocational Education of the Department of Education. (Shields, 1970, p.32) In trades which did not have a journeyman's status, the University Admissions Board determined equivalent training.

On 15 January, 1962, Dr. H. T. Coutts, Dean of Education, at the University of Alberta, Edmonton Campus, announced that the training of teachers for vocational schools in the province would start in the fall of 1962. He also announced to the urban school trustees that the first teachers would be certificated in May 1963 and be ready to take up their positions in the fall term of the 1963-64 school year.

Because the Faculty of Education did not have either a division or a department in which to house the vocational education teacher education program, a search was made for an educator who would provide leadership to the newly formed Division of Industrial and Vocational Education. Part of this search included the placement of a vacancy notice in the professional literature. From among those who applied, in July 1962 Dr. Henry R. Ziel was selected to become head of the Division. Teaching personnel of the

Division were responsible for planning and designing the courses that became an integral part of the vocational education teacher preparation program of study. Two years later, in 1964, this Division was elevated to departmental status within the university.

VOCATIONAL EDUCATION TEACHER
PROGRAM OF STUDIES - 1962

The program designed for the first class of vocational education teachers to enter the University of Alberta in 1962 consisted of the following courses:

First Year

Applicants to the program who had the necessary trade and experience qualifications were granted one year of advanced standing.

Second Year

1. Ed. Admin. - 261
2. Ed. C.I. 250 - Student teaching
3. Ed. Fndn. 201 -
4. Ed. Psych. 276 -
5. Ed. Voc. 301 - Foundations of Vocational Education
6. Ed. Voc. 280 - Curriculum Instruction in Vocational Education
7. English 210 -

Granted initial teacher certification

Third Year

1. Ed. Psych 476 -
2. Ed Voc 350 - Labor Relations & Practices
3. Philosophy 240 -
4. Junior Arts/Science option
5. Junior Arts/Science option

Fourth Year

1. Ed. Foundations - 492
2. Ed. Vocational - option
3. Senior Arts/Science option
4. Senior Arts/Science option
5. Senior Arts/Science option

(University of Alberta Calendar, 1962-63, Edmonton, 1962)

VOCATIONAL EDUCATION TEACHERS RECEIVE BURSARIES

School boards had to recruit their own candidates for the vocational education teacher program and enticed trades people into the program by awarding them a conditional bursary set at \$4,000.00 for married persons and \$2,000.00 for single persons. Seventy-five percent of the cost of these bursaries was covered by the provincial government. Program applicants who accepted a conditional bursary became indentured to teach for the funding school board for a minimum period of one year after initial teacher certification. Those who failed to complete the program were obligated to "pay-back" the bursary money to the funding board with interest.

During the 1962-63 academic year, the first year of the program, there were 84 students registered in the program. Seventy six of these were from various parts of Western Canada and the remaining 8 were bursary students from the Calgary Public School Board.

Bob Byron, Director of Vocational Training, Department of Education, estimated that 50 to 75 vocational education teachers would be needed for the fall of 1963 to meet the needs of the newly established vocational education program of study.

At a meeting that was held on 11 April, 1963, Dean Coutts reported that in the recently established vocational education teacher preparation program, there were 84 candidates registered all who had the necessary qualifications for admission.

Bursary support was given by the Board to both single and married tradespeople who had the necessary trade qualifications including working experience and the necessary university admission requirements. This support was given for the following academic years.

1962-63	8
1963-64	18
1964-65	22
1965-66	9
1966-67	14
1967-68	15
1968-69	20
1969-70	16
1970-71	0

122

(Calgary School Board Annual Reports 1963 - 1971)

In an address to the 44th annual meeting of the I.O.D.E. provincial chapter of Alberta that was held in Calgary April 1964, J. P. Mitchell, Director of Vocational Education, Department of Education stated that the vocational education teacher training course at the University of Alberta, Edmonton was "one of the best in Canada" (Calgary Herald, 16 April, 1964).

The first vocational education student graduated in May, 1965 with a Bachelor of Education Degree in Vocational Education. Since that time and until fall convocation 1973, a total of 454 vocational education teachers convocated with a Bachelor of Education in Vocational Education. Students admitted after that date and who successfully completed the program were granted a Bachelor of Education in Secondary Education. Consequently, statistics compiled by personnel of Student Records and Programs of the Faculty of Education do not show the number of vocational education students who convocated between 1973 and 1980 because these numbers are included under Statistics for Secondary Education.

PROVINCIAL BURSARY SUPPORT

Effective with the implementation of the T.V.T.A. Act in 1961, provisions were included for bursaries to teacher candidates who wished to teach vocational education subjects in the secondary vocational high schools, but who were required to achieve minimum standards in a similar fashion to all other aspiring teachers. Bursary Candidates sponsored by the Calgary Public School Board received \$4,000 - (married) and \$2,000 - (single) to attend the University of Alberta for one full term. The bursaries were paid in part by the three levels of government. The Federal government paid \$1,500 - married and \$750.00 - single. The provincial government paid \$1,500 - married and \$750.00 single. The local school boards paid \$1,000 - married and \$500 to single candidates. Free agents (without a local board contract) received \$3,000 - married and \$1,500 single. (correspondence with R. H. Cunningham)

This standard of bursary payment continued until September 1966, when the bursary was increased to \$5,000 - married and \$3,000 single. Free agents received \$4,000 - married and \$2,400 single. Another form of bursary was commenced during this term which was called the reverse bursary. This bursary provided funds for candidates who had teaching certificates to teach in a regular classroom but insufficient training to meet vocational teachers standards as far as training and experience were concerned. This bursary assisted candidates to acquire their technical deficiencies.

Effective 1 April, 1967, Canada Manpower took on the responsibilities of administering the bursary program for vocational teachers. Rates remained the same, at \$5,000 - married and \$3,000 single.

In 1968 the Federal government ceased to be involved as the T.V.T.A. Act had expired. Local school boards found that the supply of vocational teacher candidates was adequate for their requirements and had ceased to sponsor new candidates. When they did sponsor, the candidate received \$3,000 - married and \$1,800 single. This type bursary consisted of \$2,000 -

married and \$1,200 single from the province and \$1,000 - married or \$600 single - from the sponsoring board. As a result, the intake became drastically miniscule and threatened the future of the program at the University of Alberta. It was in 1968 that reverse bursaries were discontinued. After 1969, boards no longer sponsored candidates, so candidates received \$2,000 - married and \$1,200 single from 1969 on to and including 1973.

On 16 September, 1969 Provincial Order-In-Council numbered O.C. 1696/69 authorized the payment of vocational teacher training bursaries to tradespeople who held an Alberta Journeyman's certificate or its equivalent; had industrial experience in the trade or occupation concerned that was acceptable to the Department of Education; was admitted to the University of Alberta; and was enrolled in Route 1 of the Bachelor of Education Vocational Education Degree Program. Bursaries were also made available to students who were enrolled in the after degree program. These bursaries were also available to vocational counsellors and to teachers of non-vocational subjects who wished to attain competence in a trade or vocation in order to receive trade certification to teach vocational education.

The amount of the bursary was not to exceed \$2,000 for a teacher with dependents or \$1,200 for a teacher without dependents who was not sponsored by a Public or Separate School Board. Persons who accepted a bursary from the Department of Education and were not indentured to a school system became known as "free agents". Bursary candidates with dependents and who were sponsored by the Department of Education received \$2,000 and candidates without dependents received \$1,200. Candidates who were indentured to a school board, that is, were being sponsored by a Public or Separate School System, received a minimum of \$3,000 for a candidate with dependents or \$1,800 for a candidate without dependents. These amounts were to be paid if the board was to be reimbursed \$2,000 and \$1,200 respectively by the Department of Education. (Curricular Newsletter #61, 1971, p.1)

Pre-Service teachers who withdrew from university or who failed to render two years of teaching or counselling service and who were indentured

to a sponsoring school board had to repay that board an amount agreed upon between the teacher and the school board. Teachers who received a bursary direct from the Department of Education were required to complete teaching service agreed to between the two parties. Those who defaulted on this agreement or service were required to repay the sum specified in the agreement. (O.C. 1696, 1969, pp.1-3)

According to Curricular Letter #61 from the Assistant Director of Technical Education these "Department of Education Bursaries were available only to persons who were teaching or who were committed to teach at an educational institution operated by the provincial government" (Carter, 1971, p.1).

It was evident from an article that appeared in the December, 1970 issue of the Industrial Education Newsletter that the Department of Education anticipated the reinsitution of the bursary program. In part, the article stated:

We are hoping to introduce a limited number of free-agent bursaries again next year (1971, brackets mine) to stimulate recruitment in areas of shortage and help to maintain a high level of competence in all course areas. (p.2)

"Rules relating to the payment of Vocational Teacher Training Bursaries were amended on 27, January, 1971 by O.C. 148/71 Section 2, Clause (b), sub-clause (iii) when paragraph (C) was added. This paragraph was phrased in this way:

(c) or in an Alberta vocational high school operated by a public or separate school system. (O.C. 148/71, 1971, no page number)

Section 6, clause (a) was also amended in this Order in Council when after the word "Department" the following was added:

or in an Alberta vocational high school operated by a public or separate school system, and who is not being sponsored by a public or separate school system. (O.C. 148/71, no page number)

These amendments to the O.C. of 1696/69 made the provision to extend Department of Education Bursaries to prospective vocational education teachers who wanted to teach in an Alberta high school operated by a public or separate school system.

R. H. Cunningham, High School Inspector, in the September 1974, issue of the Industrial Education Newsletter requested that vocational education teachers recommend suitable candidates to become vocational education teachers to the Department of Education because the Minister of Education had re-instituted a bursary program. (p.13) In total 25 bursaries were to be awarded each year. Names of candidates to be selected for bursaries would be placed before a Selection Committee that determined subject area priority and select the candidates to be awarded bursaries. (p.13) Membership on the Selection Committee included:

- (R. H. Cunningham, High School Inspector (Chairman)
- A. A. Day, Consultant in Industrial Education
- Dr. J. D. Harder, Associate Director of Curriculum (p.13)

To be eligible for a vocational teacher bursary, a candidate had to meet the following criteria:

1. Acceptance in the Faculty of Education of an Alberta University and registered in courses which lead to a provisional certificate.
2. An Alberta Journeyman's Certificate or the equivalent, if the occupational area is not designated under the Apprenticeship Act.
3. Industrial experience in the trade or occupation concerned, acceptable to the Department of Education. (p.14)

The financial arrangements under the re-instituted program were more generous than they were under either O.C. 1696/69 or O.C. 148/71. Approved candidates who qualified received:

certification (....full time means a minimum of five full courses in a winter session).

- (b) Candidates who are registered in a winter session in which only a part of their program consists of courses leading to certification, may be paid on a pro-rata basis of a maximum of \$1,000.00 for a full course or equivalent which leads to certification.
- (c) Candidates who register for inter-sessions or summer sessions, may be paid on a pro-rata basis of a maximum of \$1,000.00 for a full course or equivalent which leads to certification. (p.14)

Bursary recipients were obligated to render teaching service at the secondary school level to the province. The period of service was determined by the Department of Education. Candidates who failed to provide such service were required to repay the bursary or a portion of the bursary that was determined by the Minister of Education. These monies were to be repaid to the Student Finance Board. (p.14)

Approximately, three and one-half years later, Mr. Cunningham wrote an article in The Industrial Education Newsletter on the vocational education teacher shortage that Alberta was experiencing. The reasons given by Cunningham for this shortage were: programs were closed down because of the lack of qualified journeyman teachers; eight school jurisdictions were planning new vocational facilities and needed staff; and the rate of increased attrition of vocational education teachers because of deaths, retirements, and change of career patterns. i.e. the loss of teachers in non-university post secondary institutions. (Industrial Education Newsletter 1980, p.7)

To help alleviate this shortage, the vocational education teacher bursary was increased from \$1,000 to \$1,400 per full course equivalent. This made the maximum that a candidate could receive for completing ten full courses leading to initial certification equal to \$14,000. (p.7)

To meet vocational teacher needs in the field, Alberta Education, through the March 1982 issue of the Industrial Education Newsletter announced the availability of the vocational teacher development grant (Bursary). In order to be eligible for this grant, a candidate had to meet the following criteria:

Acceptance in the Faculty of Education of an Alberta university and is registered in courses which lead to a provincial certificate. An Alberta Journeyman's certificate or the equivalent education in a post secondary institution, if the occupational area is not designated under the Apprenticeship Act. Alberta Industrial Experience in the trade or occupation concerned, acceptable to the Department of Education (two years beyond the ticket).

Been approved by the Selection Committee of the Department of Education.

Canadian Citizenship

Been an Alberta resident for one full year (p.10)

What this article failed to show was the fact that the bursary was increased from \$1,400 per full course to \$2,000 per full course equivalent.

By August, 1982 candidates were being paid \$2,200 per course or \$11,000 for 5 full university courses. A further innovation to meet the shortage was instituted in both Calgary and Edmonton, whereby candidates could complete 2 years university training in a compressed time schedule of 13 months, for which they received a bursary totalling \$22,000.

VOCATIONAL EDUCATION TEACHER PREPARATION - ROUTE II

During the seventies, personnel of the Department of Industrial and Vocational Education were aware of the fact that enrollments in the vocational education teacher education program were on a continual decline and that additional teachers would be needed because of attrition. One of the reasons for the lack of trades people applying for admission to the program was the excellent economic conditions that existed in the province in the late six-

ties. This had an effect on the supply of teachers available to meet the demand.

To alleviate this problem faculty members of the Department designed a new program that would draw on a new pool of potential teachers - the graduates of the vocational education programs from the secondary schools of the province.

In the April 1966 issue of the Industrial Arts and Vocational Education Specialist Council Newsletter, Dr. Ziel had an article which detailed this new program, Route II. This program was designed for graduates from secondary vocational schools and institutes of technology who wished to prepare to become vocational education teachers. The program was a five year program and included a work study component of 116 weeks which involved field experience in the students trade specialization. Upon completion of the program, Bachelor Education in Vocational Education would be conferred by the university and a journeyman's certificate would be awarded by the Apprenticeship and Journeymen Qualification Branch. This program had the approval of the university administration and first appeared in the 1966 Faculty of Education Calendar.

Applicants to the program had to have a minimum of 30 vocational education credits plus senior matriculation. The fields of study were any of the apprenticeable trades that were part of secondary vocational education, business education or technologies. For the non-credit field, experience component, it was incumbent upon the student to locate a work station that must be approved by the Department. Field experience is supervised by the Coordinator of Vocational Education, Department of Industrial and Vocational Education.

VOCATIONAL EDUCATION PROGRAM - ROUTE II

- | | | |
|--|-------|----------|
| 1. Ed. Voc 123 - Supervised field experience | | |
| (July, August, 2 weeks in September) | TOTAL | 10 weeks |

2. First University Year

(a) Ed. Fdn. 201	(b) Ed. Adm 261
(c) Ed. Pshch 276	(d) English 210
(e) Approved Mathematics	(f) Ed. Voc. 204
(g) Physical Education	

3. Ed. Voc. 223 - Supervised field experience
 (May, June, July, August, 2 weeks September) TOTAL 18 weeks

4. Second University Year

(a) Ed. Voc 280	(b) Approved Arts/Science option
(c) Ed. C.I. 250	(d) Approved Sociology
(e) Approved Industrial Arts Laboratory	

5. Ed. Voc. 323 - Supervised field experience
 (May of 1 year to September 15 of following year) TOTAL 70 weeks
 Note: student is eligible for standard S teaching certificate

6. Third University Year

(a) Ed. Psy 476	(b) Philosophy 240 or 242
(c) Ed. Voc. 350	
(d) 2 approved junior arts/science options	

7. Ed. Voc 423 - Supervised field experience
 (May, June, July, August, 2 weeks September) TOTAL 18 weeks

- TOTAL 116 weeks

Note: Student is eligible for Professional certificate

8. Fourth University Year

(a) Ed. Fdn. 492	
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- (b) Approved Sociology
- (c) Ed. Voc. option
- (d) 2 approved senior arts/science options

Note: Student is eligible to receive B. Ed. Degree
(University of Alberta Calendar, 1969-70)

VOCATIONAL TEACHER TRAINING 1981

The program designed for the first 13 month class which commenced in July 1981, consisted of the following courses:

First Year

Assigned credit for trade training and industrial experience OR

First year

EDIND 223
 EDIND 323
 EDIND 343
 EDIND 423
 EDIND 443
 SPECIALIZATION
 SPECIALIZATION
 NONED
 NON-EDUCATION
 NON-EDUCATION

Third Year

EDFNDN 301
 EDADM 401
 EDAV
 EDIND 396
 EDPR 351
 EDIND 485
 EDIND 497
 EDPR 357
 EDPR 358
 EDPR 359

Second year

EDPSY 263
 EDPSY 371
 EDIND 245
 EDIND 390
 EDPR 251
 ENGLISH

Fourth year

EDIND 465
 EDFND
 MINOR
 MINOR
 NON-EDUCATION
 NON-EDUCATION

ENGLISH

OPTION

MINOR

OPTION

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OPTION

(University of Alberta Calendar '82-'83, p.24)

CHAPTER VIII

AGENTS OF CHANGE

INTRODUCTION

Content of the previous chapters showed the reader the influence that federal legislation had on the growth and development of vocational education from a provincial curriculum perspective and from the implementation of that curriculum in the Calgary Public Schools. Emphasis was placed in Chapter V on the building program for vocational education that received a major share of the capital costs from the Federal government.

The chapter on industrial arts was written to show the reader that this program of study was complimentary to the vocational education program of study although the objectives and goals of the former program were completely different than those of the latter program.

The content of this chapter will show that for approximately two decades, these two programs of study have been influenced by the decision makers from Alberta Education. The decisions that were made would have an influence on the way that curriculum was designed and on a name change for the organization of vocational education and industrial arts.

Part of the content of this chapter will show the influence that the Building Quality Restoration Program of Alberta Education had on equipment modernization for vocational education shops and industrial arts laboratories of the Calgary Public Schools.

1970 - 1980

The decade of the sixties saw the birth, introduction and development of the vocational education programs into Alberta education in the secondary schools, the scope and effect of which could never have been contemplated prior to the enactment of the T.V.T.A. Act in 1960.

The generosity of the Federal government of the day was accepted by both the provincial governments and the local school boards of the provinces because of the generous cost sharing principle of the Act. This principle provided immediate financial relief to these jurisdictions to assist them in building and equipping vocational education facilities across the country.

The motives of the Federal government in providing this type of funding were partly sociological, economical and psychological. From a sociological point of view, it was preferable to provide funds for educational purposes over a continuation of the welfare approach as a solution to facing unemployment. Economically, the country was experiencing acute shortages of qualified journeymen to meet the manpower needs of the country, in spite of exhaustive personnel searches that were conducted throughout the world. Psychologically, it is to the advantage of the individual and the country for the individual to be employed and making a contribution to society.

In the years that followed the signing of the agreement, Alberta developed a total vocational education program of study that was unique to this province. To develop this program, provincial assistance and involvement were rather extensive with the Department of Education taking the responsibility for designing curricula or approving locally designed curricula. In addition, this department provided guidance to school board personnel throughout the province on the implementation of these curricula.

Because of the newness of the program, and because of its manpower development, and orientation in the early phases, basic psychomotor skill development became a paramount objective. The development of psychomotor skills would enable a graduate of the program to enter a trade with an occupational level of skill. The teachers of the programs had full occupational competence in the subject area in which they taught. These teachers were either qualified journeymen for the apprenticeable trades, who had successful trade experience or they had sufficient working experience in a non-apprenticeable trade, i.e., drafting, electronics, horticulture or business education. Teachers standards for their students were high.

Under terms of the Agreement that Alberta signed with Ottawa, (Program I, The Vocational High School Training Program) a vocational education student was to spend at least one-half of school time taking technical, commercial or other vocational subjects that would prepare a student for entry into a chosen occupation. To meet this term, the Department of Education established the criterion that for a student to receive a vocational education diploma, the student had to have 35 credits of vocational education. This particular criterion prohibited students enrolled in the academic stream from enrolling in vocational education courses which were for senior courses, 15 or 20 credits in length and required one-half of a students school day. Consequently, students were obligated to elect either the matriculation or vocational education courses but not both. The inability of the matriculation student to elect vocational education courses as an option, became a major concern of Department of Education personnel associated with vocational education. According to Harder (1970) "the more intellectually endowed opt for matric while the slow learner had little alternative. A dichotomy has developed which is unnatural and stigmatizes the vocational program as second rate" (p.3).

The cost of retaining courses with low student enrollment in some of the vocational education courses was at times questionable because of their costs. The taxpaying public wanted greater accountability as to how wisely the tax dollar was being spent because the resources for financing education were always strained. To negate any criticism from the taxpayer of the province concerning the prudent expenditure of the tax dollar, and to establish improved methods for planning and allocating resources more effectively, the Department of Education in 1972 brought in a modified form of Planning, Programming, Budgeting and Evaluating System (P.P.B.E.S.) when it distributed the Program Accounting and Budgeting Manual (P.A.B.M.). P.P.B.E.S. later on, became known as Program Accounting and Budgeting System (P.A.B.S.). The purpose of this manual was to assist educational decision makers with the task of enhancing pupil learning through the more efficient and effective use of available financial resources. (P.A.B.S., 1972, p.XX)

One of the broad aims of vocational education was to prepare individuals to enter the world of work. This traditional approach to secondary school vocational education came under close scrutiny and criticism by such noted vocational teacher education educators in the United States as Maley (1967, 1969) and Bushnell (1969). The criticism of these two noted teacher educators was the narrow focus of vocational education on specific job skills and the tendency of vocational educators to force these students to make specific career choices before they were vocationally mature. (Thompson, 1975, p.17)

It was evident from what Bottenberg and Christal (1961) and Christal (undated) wrote that the United States Air Force had developed a method for clustering technical curricula. The method that these authors described was called the "MAXOF" clustering model which is an acronym for MAXimizing an Objective Function. (Chrystal, undated, p.1) Maley (1969) used a different approach to cluster vocational education curricula based upon the following commonalities: (1) Communications, (2) Measurement, (3) Skills, (4) Mathematics and Science, and Information. (Thompson, 1975, p.18)

In a final report that Maley (1961) prepared for the United States office of education, The Cluster Concept program as an Approach to Vocational Education at the Secondary Level he listed four main issues for clustering as an alternative to the traditional delivery of vocational education instruction. The issues that were listed were: (1) The increasing mobility of people on a geographical base, (2) the need for individual mobility within an industry, (3) the need for skills of adaption to technological changes, and (4) the problem of career choice. (p.3) To collect data for his study Maley conducted a field evaluation of the following clusters: Construction, Electro-Mechanical, Air-Conditioning and Refrigeration, Metal Forming and Fabrication, and Assembler.

Wolansky (1970) in an article titled "Oregon Musters a Statewide Commitment to Cluster" reported on the cluster programs that were started in that State and wrote that these programs had an impression on success.

However, most of the programs were new and the evaluation had been of a very general nature. (p.54) At that time, the Oregon State Department of Education recommended 12 clusters to include: Industrial Mechanics; General Clerical, Marketing; Agriculture; Service Wood Products; Secretarial; Metal Working; Bookkeeping and Accounting; Health, and Electricity-Electronics.

The United States Department of Health, Education, and Welfare, (1971) in its publication Career Education indicated that it had placed the more than 20,000 occupations found in the Dictionary of Occupational Titles into one of the following clusters for career education: Transportation; Health; Agri-Business and Natural Resources; Business and Office; Communications and Media; Consumer and Homemaking Education; Construction Environment; Fine Arts and Humanities; Hospitality and Recreation; Manufacturing; Marine Science; Marketing and Distribution; Personal Services; and Public Service. (p.9).

At the time that the above educational innovations were taking place in the United States, Mr. J. D. Harder, Supervisor of Industrial Arts, Department of Education was completing the requirements for a Doctoral Degree at Wayne State University, Detroit, Michigan. When he returned to the Department in September, 1969, his appointment as Inspector of High Schools, Industrial Education, was announced in Volume VII, No.1 of the Industrial Arts Newsletter which was published by the Department of Education. According to information in the newsletter:

The term Industrial Education (italics in original) has been used to define the position of the High School Inspector. This is by design; for the Department desired to see a more co-ordinated program of industrial arts and vocational education at the high school level. Industrial education is a generic term and applies to both. Mr. Harder will have responsibilities in the two fields.

It is hoped that the next few years will be exciting and rewarding as administrators and teachers become involved in developing a co-ordinated structure for industrial education. (p.3)

In a memorandum to "The teachers in the field of vocational education", September, 1969, that was attached to the Newsletter, Mr. Harder paraphrased the above quotation and asked for the participation and cooperation of these teachers by serving on committees to study trends and develop policy. (no page number given)

From visits with vocational education teachers during a four month period in 1969, Mr. Harder in Volume VII, No. 2 of the Industrial Education Newsletter, (1969) identified five major problems that were confronting vocational education personnel in the province. These problems were:

1. Developing courses in the technological areas to present students that have relevancy for their future.
2. Developing an administrative structure for the courses that gives all of the students in the secondary schools the option of taking one or more classes in them.
3. Providing and maintaining a financial base to support the technical programs which is realistic in the light of the total school program.
4. Developing a scheme by means of which an on-going evaluation can be made and feedback utilized to make modifications.
5. Maintaining teacher competency. (p.2)

On 21, October, 1969, an Administrators Seminar was held at the Department of Education in Edmonton. One person from each school system that offered a vocational education program was invited to attend this one day seminar. During this seminar, twelve topics related to vocational education were discussed. Among the topics that were discussed were the following:

- Vocational education contributes to the objectives of general education. The nature of the contribution of vocational education to general education should be clarified.
- The objectives of industrial arts and vocational education should be separate. Each has a place in the high school, yet each has a different function.
- There needs to be more flexibility in credit structure.
- A reduction of credit values in some courses may be feasible and desirable.
- No vocational education course should be offered for less than a ten-credit block. However, the possibility of building to this ten-credit value by five-credit units should be investigated.

- There can be no reduction in special financial support or the program will suffer or even disappear.
- Some method of defining what is vocational education for grant purposes must be developed especially if credit values for courses are reduced. (pp.3-4)

Mention is made of the Industrial Education Committee that was appointed the previous year; however, the Committee held its first meeting on 25, November, 1969. Members of this Committee included:

D. J. Collett, Principal, Grande Prairie Composite High School
 G. B. Coppinger, Instructor, Victoria Composite High School, Edmonton
 C. L. Hoyme, Instructor, Camrose Composite High School
 N. J. Cameron, Principal, James Fowler High School, Calgary
 K. W. Freeman, Instructor, Medicine Hat High School
 W. N. Pura, Director of Vocational Education, Edmonton Separate School Board
 F. E. Whittle, Director, Apprenticeship Board
 J. P. Mitchell, Director of Vocational Education, Division of Vocational Education, Dept. of Education
 D. W. Barrus, Instructor, Lethbridge Collegiate Institute
 A.A.T. Johnson, Vice Principal, Wetaskiwin Composite High School
 W. A. B. Saunders, President, Northern Alberta Institute of Technology
 A. A. Day, Supervisor of Industrial Arts, Dept. of Education
 J. D. Harder, High School Inspector of Industrial Education, Dept. of Education (Chairman). (pp.9-10)

At this meeting, two motions were made, seconded and approved that the following two committees be established - "Industrial Education Ad Hoc Evaluation Committee" and the "Industrial Education Course Ad Hoc Committee". The former committee was to develop a model upon which to base an evaluation plan. The system of evaluation that was selected was based on Stakes model. This model was recommended to the Industrial Evaluation Curriculum Committee for acceptance and implementation, who, in turn made it the responsibility of the Evaluation Plan Ad Hoc Committee to implement.

The major recommendation that resulted from a meeting of the "Industrial Education Structure Ad Hoc Committee" was to recommend to the "Industrial Education Committee" that a flexible structure of five-credit course modules be developed to be used as the components in program development" (p.8).

The Industrial Education Curriculum Committee made the following three recommendations to the Secondary School Curriculum Board:

- (1) That an evaluation of vocational education be undertaken to compare students from that program with students from other programs.
- (2) That experimentation be undertaken to determine the effect of introducing flexibility in credit allotments.
- (3) That work experience definitions be accepted and credits provided. (p.5)

All of the above recommendations were approved by the Secondary School Curriculum Board.

Enclosed with the Newsletter of March 1970, was a copy of "A Rationale for Industrial Education" which was a position paper which was prepared by J. D. Harder. In this Newsletter vocational education and industrial arts teachers were asked to provide their written reactions to the paper. Included in the content of the "Rationale" were 10 actions that Harder had proposed to expedite the development of the industrial education program. (The more significant of these actions will be presented in a later section of this chapter.) A flow chart showing how the various actions interfaced with the time line and when each action was to take place. This flow chart/timeline shows that the entire curriculum process for establishment of the Ad Hoc Committee to develop the evaluation model to submitting the designed curriculum to the Secondary School Curriculum Board for approval would take approximately three and one-half years - December 1969 to January 1974.

Mr. Harder also informed these teachers that the "Rationale" had been presented to both the Advisory Board on Curriculum and Instruction and to the Secondary School Curriculum Board. Both of these Boards were to debate the "Rationale" at a later date.

The "Industrial Education Course Ad Hoc Committee" tabled its report at the 22 January, 1970 meeting of the Industrial Education Curriculum Committee. According to the Newsletter "The report indicated areas of

duplication, overlap of content between and within courses, and made recommendations for streamlining the program" (p.4). As a result of these recommendations, the "Industrial Education Structure Ad Hoc Committee" was appointed. The function of this Committee was to restructure the whole area of industrial arts and vocational education. This Committee was assigned a number of responsibilities that included:

- (a) Review the reports of the Course Evaluation Ad Hoc Committee.
- (b) Review the letters from teachers on recommended changes.
- (c) Develop a set of objectives, based on the recommendations of the Industrial Education Committee.
- (d) Develop a structure or model that organizes the industrial arts and vocational education course in such a way that:
 - i. There is a coordination between industrial arts and vocational education courses.
 - ii. Transfer from one program to another is facilitated.
 - iii. Duplication of content is reduced within and between courses.
 - iv. Provides for a "core" which is common to both groups.
 - v. Group courses into program which in turn meet the objectives.
- (e) Recommend a list of course titles, base content and time requirements for further development of course revision committees. (Industrial Education Newsletter, March 1970, p.5)

Another significant point that was mentioned in the March 1970 Newsletter was the fact that the "Industrial Education Curriculum Committee" recommendation to reduce the "32" courses to 10, 15 or 20 credits in schools where flexibility was needed to better utilize these facilities was tabled until 4th June. (pp.5-6)

The High School Inspector for Industrial Education reported in the June 1970 issue of the Industrial Education Newsletter that three meetings of the "Industrial Education Curriculum Committee" culminated in three recommendations being made to the Secondary School Curriculum Board. The recommendations that were made were:

- (1) That an examination of vocational education be undertaken to compare students from that program with students from other programs.
- (2) That experimentation be undertaken to determine the effects of introducing flexibility in credit allotments.

- (3) That work experience definitions be accepted and credit provided. (p.5)

The disposition of these recommendations by the Board was: it approved the pilot study proposed by the Evaluation Plan Ad Hoc Committee; it approved the experimentation with flexibility in credit allotments; and it accepted the definitions for Work Experience Education and the credits allotted for this program. The Board also accepted in principle the "Rationale" as well as the objectives for "industrial education" that were written into that document.

When the Secondary School Curriculum Board gave approval to the experimentation with credit flexibility, it sanctioned that two experimental programs be conducted. These programs were labelled Experimental Program - Type I and Experimental Program - Type II.

EXPERIMENTAL PROGRAM - TYPE I

The purpose of this program was to collect information on how increased flexibility for local programming affected student choice and opportunity to take industrial education courses.

The objectives of this experiment were:

1. Reduce credits at the "32" level to a minimum of ten, as they relate to content.
2. Reduce credits at the "22" level to ten, as they are required for grants. (p.8)

The two schools selected to participate in this experiment were Western Canada High School Calgary (Urban) and Grande Prairie Composite High School (Rural). These two schools were given permission to experiment with a 5-10-10 program of credit values. Modules for the courses involved in the experiment were to be blocked in a series of related experiences. Grants were paid to the School Boards for students who completed the "22" level courses with a total of 15 credits and the "32" level courses with 25 credits.

EXPERIMENTAL PROGRAM - TYPE II

The purpose of this program was to collect information on how increased flexibility for local programming affected student interest and opportunities to enrol in industrial education courses.

The objectives of this experiment were to:

1. Reduce the vocational education courses to modules of five credits, to be blocked together at the discretion of the local school system but culminating in an identifiable program.
2. Allow schools to experiment with various combinations of content to achieve flexibility in content and time for industrial education programming. (p.9)

Similar to the Type I Experimental Program, two schools, one urban and one rural were selected to be involved in Experimental Program - Type II. The schools that were selected were St. Francis High School, Calgary (Urban) and Camrose Composite High School (Rural). Modules for developing the program were to lead to the fulfillment of a major interest area for the students and were to provide a series of related experiences. Grants were paid to the two participating school boards for students who completed the "22" level courses with a total of 15 credits and the "32" level courses with 25 credits.

Both experimental programs began on September, 1970 and terminated on 30 June, 1972.

Information in the January 1970 issue of the Newsletter shows that one of the decisions made by the "Industrial Education Curriculum Committee" was:

That the Industrial Education Structure Ad Hoc Committee be requested to design a procedure for establishing families of occupations, and designating these families if possible, upon which subsequent course development could occur. (p.4)

The "Industrial Education Structure Ad Hoc Committee" accepted this responsibility and it was the consensus of the Committee that one of the major references to identify families of occupations would be the Canadian Classification and Dictionary of Occupations. (p.4)

THE RATIONALE

There were two drafts of the "Rationale For Industrial Education" that were released by the Department of Education. The first draft was released on 1 February, 1970, over the name of J. D. Harder, High School Inspector of Industrial Education. The second draft was released approximately one year later in February, 1971, over the name of Dr. J. D. Harder, High School Inspector of Industrial Education.

A comparison of these two drafts shows that there were changes in sentence structure, word sequencing, modification of sentences, and in some instances, the deletion or inclusion of sentences or paragraphs to add to the intent of the section being discussed. It was evident from this comparison that the writer made every effort to use some of the suggestions that were received from groups who reacted to the first draft when the second draft was written.

When the March, 1970 issue of the Industrial Education Newsletter was released by the Department of Education to industrial arts and vocational education teachers in the province, also enclosed with the Newsletter was a copy of the "Rationale" which was described as a position paper for the philosophical base upon which to develop future programming. (p.2) These teachers were asked to provide written reactions to the "Rationale" to Mr. Harder. This copy of the "Rationale" had wide distribution in the province because it was sent to all vocational education teachers, administrators, university people and other interested professionals in education.

A copy of the "Rationale" had been forwarded to Dean H. T. Coutts, Faculty of Education, University of Alberta. On 1 April, 1970 Dean Coutts transmitted the "Rationale" to staff members of the Department of Industrial

and Vocational Education through Interdepartmental Correspondence. In his memorandum Dean Coutts wrote:

Attached is a copy of "A Rationale for Industrial Education" prepared by Mr. J. Harder, High School Inspector of Industrial Education. I should like members of the staff of the Department of Industrial and Vocational Education to read this document and react to it either individually or through a committee of its staff. . . . In the meantime, I should welcome a tentative reaction from the members of the Department. (Coutts, memorandum, 1 April, 1970)

It was evident from key statements that had been underlined and the marginal notes that were made that Coutts had read the Rationale before forwarding it to the Department of Industrial and Vocational Education.

Early in May 1970 a Departmental Ad Hoc Committee was struck with Dr. L. Kiem (Chairman) and Drs. A. Meyers and C. H. Preitz as Committee members which prepared a reaction paper to the "Rationale". The Committee in its reaction paper pointed out that the position paper included many terms and expressions which needed to be defined because these terms had a wide variety of connotations. Some of these terms included "basic skills", "specific trade oriented", "broad-based programs" and others. The Committee was of the opinion that when the "Rationale" was formulated, it was based on subjective observation of existing programs and was not formulated on a sound research base.

The AD HOC Committee in its reaction paper, referred to the terms for vocational education under T.V.T.A. Act, 1960, indicating the Committee was concerned with the increase in the Canadian economy's requirements for trained manpower of all kinds which would not be achieved in the high schools under the proposed changes. The growth of the Canadian economy was contingent on the development of a labour force with the skills and knowledges required of industry and which urgently required the development of training opportunities for both workers in the labour force and youth who would be entering the labour market. Under terms of the T.V.T.A. Act, federal monies had been invested and were intended to provide assistance for

the development and operation of programs that would sustain the manpower needs for Canada's industrial base. How could the "Rationale" be justified in light of past commitments?

The Committee, rather than analyzing the position paper in detail, raised pertinent questions as to the intent of the "proposed rationale for industrial education" (Kiem, et. al., 1970, p.2). In total, there were 25 questions that the Committee directed toward Harder's position paper. Questions that were asked included such questions as:

1. How will the proposed industrial education and the support of "one educational program" (as stated on page ten), meet the wide range of individual differences, abilities, aptitudes and interest, which result from social, economic and educational deprivation?
...
3. How will the proposed industrial education continuum, "in cases where special occupational programs are needed to motivate students to remain in school" (page six), eliminate the possibility of the program becoming a "dumping ground" from programs for the educationally elite?
...
5. What methodology will be employed to achieve the stated objectives of industrial education as stated on page 12?
6. What evidence or research support the "Cluster Concept" as skill development for successful employment? (Kiem, pp.2-3)

The general conclusion of the Departmental Reaction Paper was that the results of the "Rationale" were based on inadequate planning and that the position paper was written for administrative implementation by the Department of Education, rather than to identify specific weaknesses of the philosophical foundations for vocational education.

In a summary statement of its reaction paper, the Committee wrote the following:

As stated previously, this paper (The "Rationale", brackets mine) raises many more questions than it answers because of

its semantic obscurantism. The proposed changes include a variety of nebulous and hazy terms which are difficult to attach to the distinctly different philosophic foundations of industrial arts, as general education, and vocational education as "job entry" education. In other words attempting to combine the two separate fields, to be subsumed under one program title would seem to do nothing more than reduce the effectiveness of each by creating ultimate confusion for (a) Junior High and Senior High School Students who view the school offerings (relevant or non-relevant) as that which can assist them in planning their career, and (b) teachers who will carry out their individual beliefs and philosophies. (Kiem, p.8)

Attached to both copies of the "Rationale" was a time line when key events were to be completed and when each event on the time line would interface with another event.

It was evident from what was written in the April, 1971 Industrial Education Newsletter that the "Industrial Education Structure Ad Hoc Committee" had been working on a matrix for industrial education since October, 1971. The matrix was to establish families of occupations upon which subsequent course development could occur. To complete this task, the Committee used the following three information sources: the Canadian Classification and Dictionary of Occupations; information on clustering of occupations that was available from other North American sources; and information on job groupings that had been accumulated by the various agencies in the province. (p.2)

This matrix had been developed which organized all the courses in industrial arts, vocational education, home economics, and business education into nine fields. In writing about this matrix, Harder (1971) wrote:

Each field was made up of several majors and required a prerequisite. All courses were set up at five credits in length, leaving the option of combining them into ten or fifteen credit blocks to the local district. (p.3)

When the developed matrix was presented to the Industrial Education Committee on 24 February, 1971, a motion was made to reject the Industrial

Education Matrix and return it to the Industrial Education Structure Ad Hoc Committee for additional refinement.

The matrix was reworked and presented and discussed at a meeting of the Industrial Arts and Vocational Education Specialist Council that was held in Red Deer on 24 and 25 April, 1971. From the reactions of the Council members, the matrix was further modified before it was approved by the Secondary School Curriculum Board at its' 28 May, 1971 meeting. At that meeting, the Board passed the following three motions that affected Industrial Education.

1. That the vocational education courses be available in modules of five credits.
2. That the matrix be approved in principle.
3. That course revision committees be set up to rewrite the vocational education courses in conforming with the objectives and philosophy expressed in the "Rationale" and the matrix. (Harder, 1971, p.2)

The matrix that was approved included the following seven career fields: Graphics, Mechanics, Construction and Fabrication, Electricity - Electronics, Personal Services, Performing Arts, and Horticulture. A career field "represents a family of occupations or career cluster. Courses in a career field have much in common as to the types of activities and processes involved in the occupations they represent" (p.4).

DECISIONS FOR A DECADE

Concerned vocational education and industrial arts teachers, administrators, supervisors, administrators, and university personnel met in Red Deer on 24 and 25 April, 1971 to discuss the problems that were associated with these two complimentary programs. At this meeting, Dr. Harder presented a paper that was titled a "Proposal for Industrial Education in the Seventies". Included as an integral part of the paper, was the "Industrial Education Matrix". Harder explained to those attending the meeting, that the "Matrix" was based on career groupings used in the Canadian Classification and Dictionary of Occupations. So that those at the

meeting could understand the various cells and bands of the "Matrix", Harder provided definitions for the following terms; industrial education, career field, pre-requisite, major, minor, and related. (For the benefit of the reader, these definitions can be found in Appendix c, page 283.) It was pointed out that the "Matrix" was developed by the Industrial Education Structure Ad Hoc Committee and that the "Matrix" coordinated industrial arts and vocational education and that the credits for vocational education were more flexible in that shorter courses were available. (Decisions for a Decade, no year given, p.4)

Although the Department of Education had a change in its philosophy toward vocational education it had not changed its position on:

- (1) The requirement of trade certification for teachers teaching vocational courses;
- (2) Formal approval of shops or labs to be used for vocational courses;
- (3) The need for instruction periods of adequate length to complete routine tasks;
- (4) The quality of courses that would be taught;
- (5) The need to provide an orderly transition from school to work or to higher education. (Decisions for a Decade, p.4)

When the "Matrix" was presented, grants given to the School Boards by the Department of Education to support vocational education were discussed. In that discussion, it was pointed out that:

Vocational grants will be paid for students taking courses in the vocational education majors and minors. These courses must be taught by a qualified tradesman in a facility that has been approved by the Department of Education for teaching vocational education courses. (Decisions for a Decade, p.5)

A motion was made and carried that "the industrial education matrix be accepted in principle". Although the matrix had been accepted in principle, there were concerns and reservations expressed by those assembled about the "proposal". These were summarized by the President of the Industrial Arts and Vocational Education Specialist Council, D. Manuel, with the assistance

of W. Ilchuk, a member of the executive. Some of these concerns were: that where the rural areas consisted of minimal student population, the application of the Industrial Education Matrix would become impractical and alternatives for this Matrix should be explored. With the implementation of the Matrix, it was feared that subject matter in senior vocational education programs would become lost and a similar fate would be suffered by the industrial arts programs as compared to the existing form. (Ilchuk & Manuel, 1970, p.7)

In their summary, Ilchuk and Manuel were of the opinion that vocational education programs should be presented in modules of five credits or more (10, 15 or 20) at the discretion of the local school administration and structure of the courses should be determined by subject curriculum committees. These reviewers recommended that, where practical, five credit blocks should be available on a half-day basis for courses which could not operate in a shorter time sequence. Formal permission should be granted to allow school principals and staff enough flexibility to carry on or extend existing credits to meet the needs of individual students without rigid adherence to blocks of curriculum material. Flexibility should be guaranteed to an academic student so he would not have any difficulty in acquiring options of his choice.

In their report, Ilchuk and Manuel wrote that the Work Study and Work Experience Programs were inadequately advertized and that there was need to make a special effort to publicize these programs both in the schools and to the general public. Other special programs for children with learning disabilities should receive special consideration relative to the grant structure and class size.

Regarding the grant structure for vocational education, the report recommended that other means of establishing a grant system suitable for all years of both Industrial Arts and Vocational Education Programs be explored; grant structure that would enable any student to acquire the maximum course offering without financial penalty to participating local school boards.

The reviewers recommended that although pilot project schools in Calgary, Camrose and Grande Prairie, experiment with 2 1/2 credits per course, the matrix approach should be delayed until full impartial studies had been completed and the results tabulated and analyzed. The Ilchuk-Manuel Report concluded that pre-requisite courses for any major vocational education course should not be less than five credits, and courses of two and a half credits should serve only as exploratory courses. They also stated that the pre-requisite system should not be rigidly enforced and that local school systems should be assured of the right to waive the pre-requisite course requirement.

HARDER'S REACTION TO THE CONCERNS

In addressing the concerns expressed in the Ilchuk-Manuel Report, Harder pointed out that rural schools could offer industrial arts general or industrial science courses as pre-requisites to a vocational education course only if they served as a feeder school to a vocational education school. Whether in an urban or a rural setting, the industrial arts cluster courses could be used as pre-requisites to a vocational education course which would open another avenue for students who wanted to enter vocational education after Grade 10.

On the concern of flexibility, Harder pointed out that the Matrix was designed so that a school system could use the 5 credit modules to build a program from a 5 credit block to 30 credits in a year. The Matrix that was proposed was considered to be an organizational pattern that would allow schools to construct the type of program best suited to meet the needs of their students. Personnel from the Department of Education could not guarantee flexibility with the Matrix. It was left to the discretion of the schools to use that built in flexibility.

Both Work Experience 15 and 25 received adequate publicity in publications that were released by the Curriculum Branch of the Department of Education. Schools in the province that have developed programs based on the direct needs of their students were not expected to come under the

regulations flowing from the Matrix. These schools included: W. P. Wagner and L. Y. Cairns in Edmonton; and Shaughnessy and Van Horne in Calgary.

In providing a reaction concerning the experimental programs in industrial education that were being conducted in the four pilot schools, Harder pointed out that informal reports from these indicated that:

1. Enrollments are up 29% in St. Francis, 26% in Camrose, 23% in Western Canada and 10% in Grande Prairie.
2. St. Francis and Camrose are experiencing a very successful year with the Industrial Education Program. St. Francis has requested permission to expand their program to include another area . . .
3. The utilization of the facilities by a more heterogeneous group of students appears to have been achieved. All schools report that more students with an academic bias have enrolled.
4. Students that want to complete a full program have had the opportunity to do so. Some scheduling problems were encountered, but were not of a restricting nature. (Decisions for a Decade, p.11)

To familiarize industrial education teachers with the terminology associated with the matrix, definitions were provided in the Industrial Education Newsletter of June, 1971, for terms such as industrial education, career field, industrial education general, major, minor and related.

EDUCATION GENERAL COURSES

In June 1972, the revised copy of the "Industrial Education Matrix" appeared in the Industrial Education Newsletter. This Matrix listed the various Industrial Education General courses that a student needed to complete before proceeding to a vocational education major.

To provide ready access to information concerning the industrial education program the Curriculum Branch of Alberta Education, in 1972, published a Handbook in Industrial Education for Guidance to Teachers, Counsellors, and Administrators. Included in the Handbook was information on program organization, courses, sequences or courses, methods of management, and evaluation.

The Secondary School Curriculum Board at 15 December, 1972 meeting, approved several recommendations that were made by the "Industrial Education Curriculum Committee" which were also approved by the Minister of Education. Among the recommendations approved was the program of industrial education as it was outlined in the Handbook in Industrial Education for Guidance to Teachers, Counsellors, and Administrators. Revisions to the Handbook have been made in 1974, 1976, and 1979.

Like the Handbook which had been through a number of revisions, so had the "Industrial Education Matrix" that is an integral part of that publication of the Curriculum Branch of Alberta Education. The most recent revision of the "Matrix" can be found in the September, 1981, issue of the Industrial Education Newsletter. A comparison of that Matrix which is titled "1st Draft of Industrial Education Matrix 1981" with the "Industrial Education Matrix" found in the 1979 issue of the Handbook reveals that major changes have been made to the Matrix. The majority of these changes are deletions of vocational education programs or the deletion of a course in the "Industrial Education Major Cell" or in the "Industrial Education Minor Cell". In making this comparison, no changes were found in the "Exploratory Courses" column or in the "Related Column".

In the 1981 draft of the "Industrial Education Matrix" the following changes were noted:

CAREER FIELD-VISUAL COMMUNICATIONS:

Visual Communications Career Field Band

Industrial Education Major Cell

Commercial Art-DELETED

Visual Communications-ADDED

Industrial Education Minor Cell

Commercial Art-DELETED

Performing Arts-DELETED

CAREER FIELD-MECHANICS:

Mechanics Band

Industrial Education Major Cell

Aircraft Maintenance-DELETED

Industrial Education Minor Cell

Mechanics "12" Strand Aircraft Maintenance-DELETED

Autobody "12" Strand Aircraft Maintenance-DELETED

CAREER FIELD-PERSONAL SERVICES:

Personal Services Band

Industrial Education Introductory Cell

Fashion & Furnishing Strand-DELETED

Home Economics Strand - Food Services 10-ADDED

Industrial Education Major Cell

Fashion & Furnishings-DELETED

Industrial Education Minor Cell

Beauty Culture, Visual Communications, Commercial

Art-DELETED

CAREER FIELD-PERFORMING ARTS:

Performing Arts Band

Industrial Education Major Cell

Performing Arts-DELETED

Industrial Education Minor Cell

T.V. Crafts, Drafting, Fashion & Fabrics Building

Construction, Electricity, Welding-ALL DELETED

Related Cell

Work Experience, Industrial Education, Business

Education-DELETED

CAREER FIELD-HORTICULTURE

Horticulture Band

Industrial Education Introductory

Land and Life-DELETED

TASK FORCE ON VOCATIONAL EDUCATION PROGRAMS

The changes proposed for industrial arts and vocational education that were made by the Department of Education to be incorporated under the term "Industrial Education" were not the only changes that were being proposed in the province. On 26 March, 1971 trustee R. T. Dixon submitted a notice of motion to the Calgary Public School Board that a task force be established

to examine the future direction and philosophy of vocational education programs in senior high schools of the system. In making the motion Dixon maintained that there was a need for establishing a task force because of the shift in emphasis at other levels of education and the changing entry requirements for programs that were offered at the Southern Alberta Institute of Technology. He suggested the task force comprise two trustees, two administrators and representatives from high schools of the system.

When Dixon made his notice of motion he urged the Board to halt all equipment provisions for the 1971 budget for vocational education and any further expenses for additional replacement equipment for senior high vocational education schools. (Calgary Herald, 26 March, 1971)

In subsequent meetings of the Board, Dixon's motion was seconded and passed and the task force approved. However, the powers of the task force were extended and it became a Task Force on High School Education which was chaired by R. W. Pulleyblank. The Task Force submitted its final Report on High School Education to the Board in June 1973.

In summary, the Report covered all aspects of high school education, including vocational education. Information in the Report indicated that since 1963, vocational and business education programs had shown promising development and had met with increasing acceptance. (p.25) Increased flexibility in the overall program had given greater opportunity for any student in the high schools to avail himself of vocational and business education courses. (p.25) Only those aspects of the Report that deal with vocational education will be reported in this research.

The proportion of students who elected and pursued vocational education programs had increased. The response from students, graduates and parents indicated positive attitudes towards business and vocational education programs. (p.25) For many students, these programs provided specific knowledge and training which the student could use either for further study at a post secondary institution or for direct entry into employment. For

others these courses added desirable breadth to the concept of general education.

The Report further indicated that if the Calgary Public High School System was to provide a range of educational experiences which would meet the needs of and be acceptable to its clients, continuation and enhancement of the vocational and business education programs was essential. (p.26)

The following specific recommendations were advocated in the Report for vocational and business education.

Recommendation 1 - that vocational and business education courses be identified and promoted as an integral part of the total high school program. To the limits imposed by facilities and staff, involvement by all students should be encouraged. Variable credit values of courses should be utilized in order to allow any student to fit into the program

Recommendation 2 - that the vocational and business education programs should retain a depth of experience in each sequence of courses so that students could achieve some or all of the following objectives:

- (a) Develop a realistic attitude toward the requirements of earning a living.
- (b) Experience the satisfaction of worthwhile manual accomplishment.
- (c) Develop an appreciation and understanding of both the knowledge and skills required in the world of practical attainment.
- (d) Develop a particular skill area to the point of having a definite advantage on the job market

Recommendation 3 - that work experience for credits be approved and promoted in Calgary high schools.

Recommendation 4 - that work study, related work experience and general work experience all be incorporated in the work experience program in Calgary high schools.

Recommendation 5 - that the Calgary School Board create the position of Work Experience Education Co-ordinator to effect the necessary liaison with business and industry and give administrative support to the program

Recommendation 6 - that when staffing schools, recognition be given to the demand on teacher time for supervision if the school is involved in work experience education unless the office of the Work Experience Education Co-ordinator could give this supervision.

Recommendation 7 - that high school programming be made more flexible to accommodate a variety of combinations of working and school attendance for individual students.

Recommendation 8 - that the possibility of taking courses in one school by students from other schools be enhanced by co-operative time tabling and efficient free transportation.

Recommendation 9 - that optimum utilization of existing facilities be arrived at through system wide planning before additional facilities were contemplated.

Recommendation 10 - that the Calgary Public School Board adopt budget practices to provide for an ongoing fund for the replacement and updating of vocational and business education equipment.

Recommendation 11 - that Vocational Advisory Committees composed of vocational teachers, central office personnel and representatives from industry be re-established for each vocational area in the high school curriculum and that staff be provided to ensure their proper functioning.

Recommendation 12 - that an organized communication network be set up between the high school and the prospective employers.

Recommendation 13 - that the expressed need for improved program and career counsellors be brought to the attention of the Special Services Department for consideration and action. (Pulleyblank, 1973, pp.29-41)

WORK EXPERIENCE EDUCATION

In a preceding section of this chapter, the evolution of industrial education and the Industrial Education Matrix was presented. An integral component of the Matrix is work experience, which can be found in the "Related" column of the Matrix. Prior to the amalgamation of vocational education and industrial arts under the umbrella term industrial education, a work experience education program in this province was non-existent. This program is a relatively new program that is part of the school curricula in Alberta.

Work experience education has been described as a variety of programs in which high school students participate in work activities in the world of work while they still attend school. In this program, students are given the opportunity to sample on-the-job activities that may be far more relevant to the student's personal and career goals than experiences provided in the classroom. Work experience education is based on the premise that worthwhile educational experiences can and do take place in a variety of environments other than the regular classroom. (Work Experience Education, 1980, p.1)

To trace the genesis of the work experience program a review and analysis was made of both the Industrial Arts Newsletter and the Industrial Education Newsletter that were published by the Curriculum Branch of Alberta Education from December 1963 to March 1982. The first reference to work experience education was made in the March 1970 issue of the Industrial Education Newsletter. It was reported in that newsletter that the "Special Education Ad Hoc Committee" recommended the acceptance of the following definition for Work Experience Education and its two components, work study and work experience; to the "Industrial Education Curriculum Committee".

- (a) Work Experience Education (italics in original) - Employment undertaken as part of the requirements of a school program, which are supervised by a teacher-coordinator and the employer. Work experience is a title that includes work-study and work experience as defined next.
- (b) Work-Study (italics in original) - Work-Study is employment undertaken by a student as an integral part of a planned school course (underlined in original) which is under the cooperative supervision of a teacher-coordinator and the employer.
- (c) Work Experience (italics in original) - Work Experience is employment undertaken by a student as an integral part of a planned school program (underlined in original) which is under the cooperative supervision of a teacher-coordinator.
(pp.8-9)

It could be inferred from what was reported in the June 1970 Industrial Education Newsletter that the above definitions were transmitted to the

"Industrial Education Curriculum Committee" by the "Special Education Ad Hoc Committee". It was reported in that newsletter that the "Industrial Education Curriculum Committee" had made three recommendations to the Secondary School Curriculum Board relative to industrial education. One of these recommendations was "that work experience definitions be accepted and credits provided" (p.5). In this same issue of the newsletter, it was reported that the Secondary School Curriculum Board had accepted the following definitions for work experience education:

- (a) Work Experience Education (underlined in original) - Employment undertaken as a part of the requirements of a school program, designed to provide planned experiences in an occupation, which are supervised by a teacher-coordinator, and the employer. Work experience education is a title that includes work-study and work experience.
- (b) Work-Study (underlined in original) - Work-Study is employment undertaken by a student as an integral part of planned school course (underlined in original) which is under the cooperative supervision of a teacher-coordinator and the employer.
- (c) Work Experience (underlined in original) Work Experience is employment undertaken by a student as an integral part of a planned school program (underlined in original) which is under the cooperative supervision of a teacher - coordinator and the employer. (p.9)

A comparison of the above definition for the term "work experience" with the previous definition for this term will show that the prepositional phrase "and the employer" was added to the definition presented to the Secondary School Curriculum Board. From what was written in this newsletter, it is apparent that the Curriculum Board also prescribed the number of credits that would be granted for work experience education as well as establishing criteria for school officials who would be involved in the program. On the issue of credits it was reported that:

- (a) High school students should be eligible for credits in work experience education.
- (b) Work-Study (underlined in original) Work-Study, being part of a regular course, does not quality for additional credits.

- (c) Work Experience (underlined in original) credits will be granted for work experience.
- (d) Work experience will be eligible for credits in five-credit blocks to a maximum of ten credits. (p.6)

When the Curriculum Board approved the definitions for work experience education, work-study, and work experience and established credits for these courses, it also established the qualifications for the teacher - coordinator which were:

- (e) School officials holding a valid teaching certificate must be involved in the planning, organizing and evaluation of the students program to qualify the student for credit. (p.7)

From June 1970 to September 1970 it is apparent that work experience was assigned the numbers "15 and 25" to designate them as bonafide industrial education courses in the province. "School systems which want to utilize the credits available through work experience 15 and 25 must get approval from the High School Inspector of Industrial Education". (Industrial Education Newsletter, September 1970, p.2)

Because students were placed in a working environment with personnel from industry and business, one of the major concerns of those associated with the program was the possibility of the student becoming injured on the work-site and the role that Workmen's Compensation would have. An Order-in-Council dated 17 November, 1970. Extended benefits provided by the Workmen's Compensation Act to students who became injured while on work experience. In order to qualify for these benefits, the student had to be at work on a contract job, had to be registered in a school, and have met the regulations concerning a contract, and acquired consent, as well as liability coverage. (Industrial Education Newsletter, December 1970, p.6) In addition, the school had to have its work experience application approved by the following provincial agencies in order for the student to be entitled to compensation benefits: The Department of Education, The Board of Industrial Relations, and The Apprenticeship Board. (p.6)

It was evident from what was reported in the December 1971 issue of the Industrial Education Newsletter that the students liked the work experience

program and were enthusiastic about it because for many of them, it provided job opportunities for after school and holidays while others found permanent employment. Employers were equally satisfied with the program. Also reported in this newsletter was the fact that the numbering for work experience would be changed from "15 and 25" to "25 and 35" with no change in the number of credits. The change in numbering was to take place in September 1971. (p.4)

When Harder presented the "Rationale for Industrial Education" to those who attended the Red Deer meeting of the Specialist Council on 24 and 25 April, 1971 attached to the Rationale was the "Industrial Education Matrix". An integral part of the Matrix was work experience for each of the seven career fields of the Matrix. A related course is a course which is related in character or function to supplement and provide greater scope to round out a student's program in a career field.

Although work experience was part of the matrices that appeared in the 1972 and 1974 issue of the Handbook in Industrial Education for Guidance to Teachers, Counsellors and Administrators, it was not described until the third edition of the handbook which was released by the Curriculum Branch in 1976. Not only was work experience described in the handbook; it also stated the amount of school time that was to be devoted to work experience "25 and 35" - 125 hours of time for each course. The handbook also stated that some formal lessons were to be given on such topics as: defining occupational interest, job interviewing, preparing a resume, deportment, and other related topics. The handbook had this to say about student expectations of the work experience education program.

- (1) Have an opportunity to participate in meaningful work.
- (2) Be enabled to explore career opportunities.
- (3) Gain an understanding of the importance of developing acceptable work habits, good grooming, and need for self - discipline.
- (4) Develop an understanding of positive attitudes for getting along with people.
- (5) Learn about the organization of business and the relationships of employee to employer, unions, and government, through direct contact with these agencies.

- (6) Assist students in making the transition from school to the world of work. (Handbook in Industrial Education for Guidance to Teachers, Counsellors and Administrators, 1976, p.52)

Information on the work experience education program that appeared in the 1979 issue of the handbook is a mirror-image of the above information.

The legal basis for work experience education programs can be found in Section 161 of An Act Respecting Public and Separate Schools, 1970 which states:

A Board may approve work experience programs for pupils in its schools. Where a Board wishes to send pupils on a work experience program, it shall obtain the approval of:

- (1) the pupil's parents
- (2) the Minister or person designated in writing by him, and
- (3) the Board of Industrial Relations.

A pupil attending a work experience program shall receive credit for attendance at school for the time he spends in the program. (C.100, S.161)

In addition to the conditions of the Act, both the Department of Education and the Board of Industrial Relations have conditions that a school participating in this program must meet. These conditions are found in the 1972-73 issue of the Junior and Senior High School Handbook. A summary of these conditions include:

- (1) School Board approval of the course.
- (2) An annual approved application signed by representatives from the Department of Education, the Board of Industrial Relations, and the Apprenticeship Board.
- (3) A school appointed teacher-coordinator responsible for the student in the program.
- (4) Availability of community work stations.
- (5) A systematic evaluation procedure.
- (6) That work hours be between 8:00 a.m. and 6:00 p.m. on regular school days. These are the hours that students will be covered by Workmen's Compensation Insurance.
- (7) A contract between the student and the employer. (p.17)

The Industrial Education Newsletter, June, 1973 presented the following summary of conditions that were established by the Board of Industrial

Relations for a school to participate in the program. These conditions include:

- (1) That the work hours be between 8:00 a.m. and 6:00 p.m.
- (2) That the ratio of students to employees be as follows:
 - (a) 1 student where the employer's work force comprises up to 5 employees.
 - (b) 2 students where the employer's work force comprises 6 - 10 employees.
 - (c) 3 students where the employer's work force comprises 11-15 employees.
 - (d) 4 students where the employer's work force comprises 16-20 employees.
 - (e) 5 students where the employer's work force comprises 21-25 employees.
 - (f) where the employer's work force exceeds 25 employees, the number of students shall not exceed 15% of the employers total work force.
- (3) That the contract between the student and the employer stipulate the hours and the time the student is to work, and include a statement that the student will not replace a regular employee. (p.5)

Since work experience education had been put into place in the educational structure of the province, the Curriculum Branch has issued two handbooks titles Work Experience Education. The first of these handbooks was issued in 1976 and the second was released four years later in 1980. The purpose of the handbook is to help those involved with work experience education to organize and operate a program that provides meaningful learning experiences to the students. (Work Experience Education, 1976, p.1)

To protect students enrolled in work experience education in the province they are governed by both enabling provincial Acts and regulations. The Acts that govern these students include the following: The School Act 1970; The Alberta Labour Act 1973; The Alberta Labour Act 1973, Alberta Regulation 318/74; and The Workers' Compensation Act (Part 4) 1973 as amended by Bill 20, 1975.

The School Act 1970, Section 161, Subsection (1) give a School Board the right to approve a work experience program for pupils in its schools.

The Alberta Labour Act, 1976, Board of Industrial Relations Order No. 1. 1975 set the minimum wages for workers in the province and it also exempted employers from paying the minimum wage to students enrolled in the work experience program who were working. This Order-in-Council stated:

1. This order applies to all employees in any employment and to their employers except: . . .
 - (d) Students participating in a work experience program of a school board where the work experience program is approved by the Board and by the Minister of Education, or person designated by him under Section 161 of the School Act.

Alberta Regulation 318/74 to the Alberta Labour Act, 1973 defines an adolescent as a person 12 years of age or older and under the age of 15 years; lists the occupations that an adolescent may be involved in; and limits the time to two hours that an adolescent may work during a school day. As a result of this regulation, students who are 15 years of age or older can become involved in work experience education.

The Workers' Compensation Act (Part 4) 1973 as amended by Bill 20, 1975, in Section 48, Subsection (1) includes in its list of "institutions" secondary schools. Subsection (2) of this amendment states:

- 48.2 Where a person has been committed, or admitted to an institution and . . .
- (b) is participating in a work training or similar program, either inside or outside the institution, he shall, while so engaged, be considered a work employee by the government for the purpose of this Act.

This Section of the Act means that students employed under an approved secondary school work experience program, are considered to be employees of the Government of Alberta. As such, these students, should they become injured while at a work station, have the protection and are eligible for benefits under the Workers' Compensation Act. (Work Experience Education, 1980, p.52)

ALBERTA EDUCATION AND DIPLOMA REQUIREMENTS

In the fall of 1977, the Curriculum Branch of the Department of Education released a discussion paper titled Alberta Education and Diploma Requirements. This paper was written by Dr. J. D. Harder. Initially this paper was prepared at the request of members of the Curriculum Policies Board which includes laymen as well as educators. The members of the Board requested that a discussion paper be prepared for the Board that would explain in laymen's terms the following:

1. How is curriculum designed in Alberta?
2. Where do all the available options fit into the various program of studies that make up the curricula for secondary school education?
3. Where does the distribution of hours for both required and option courses fit into the requirements for the High School Diploma? (Personal interview, J. D. Harder)

The Director of Curriculum, Alberta Education, Dr. Gene Torgunrud instructed Dr. J. D. Harder, Associate Director, Curriculum, to prepare a discussion paper that would show the relationship of the various high school programs; the options that were available in these programs; and the intertwining of these programs and courses that terminate in a high school diploma. This paper was to be written so that it was easily understood by members of the Curriculum Policies Board. The content of the discussion paper was to review "what is" - the present curriculum and "what-ought-to-be" the future curriculum. The paper was to begin at the very general and proceed to a level that was very specific.

The initial draft of the Discussion Paper was presented to staff of the eight regional offices of Alberta Education for their analysis, review, and reactions. These presentations were made by Dr.'s Harder and Torgunrud. Following these presentations, the reactions of staff were analyzed and the Discussion Paper was re-written and revised. A major change that was made to the paper was that the objectives of education were re-written. This change was made because it was found from the visits to other regional offices that another committee was also working on the objectives of

education. The objectives from these two sources were synthesized to formulate the objectives of education that appear in Alberta Education and Diploma Requirements. The second draft of the Discussion Paper was placed in the hands of the Curriculum Policies Board for its review and analysis. The Board recommended that the Discussion Paper be placed in the hands of stake holders groups such as the Alberta Teachers' Association, The Alberta School Trustees' Association and others, for their reaction.

The second triennial conference on "Curriculum Decision Making in Alberta" was held in Red Deer on 8-12 October, 1977. The purpose of this conference was to develop recommendations on the directions for school curricula in Alberta. This conference was sponsored by Alberta Education, the Alberta Teachers' Association, and the Alberta School Trustees' Association. One of the papers presented at the conference was Alberta Education and Diploma Requirements. Attending the conference was a reporter from the Red Deer Advocate who reported on the conference and wrote an article on the Discussion Paper. The article appeared in the 12 October, 1977 issue of the Advocate. With the publication of this article, the Discussion Paper became part of the public domain.

Following the Red Deer conference, both the Curriculum Policies Board and the Curriculum Branch were concerned as to what to do next with the discussion paper because they considered the paper to be in the public domain. It was decided that meetings should be held across the province to meet with stake holders groups to discuss the paper. In total, there were 23 of these sessions that we held from Peace River to Medicine Hat with at least 60 people attending per seminar.

The publication of Alberta Education and Diploma Requirements generated public interest not only in the province but across the nation among educators and non-educators. (Personal interview, Harder, 8 September, 1982)

The Discussion Paper used terms that were new to the educational scene in the province. Terms that were introduced by the paper included the

following: Basic Life Skills, Content Elective, Compulsory Elective, Options and Locally Developed Course. Harder (1977) defines Basic Life Skills as "those elements of knowledge, skill and attitudes in the social, physical and emotional realms a person in Western society needs to cope with the environment in order to maximize his chances for a full and rewarding life" (Alberta Education and Diploma Requirements, p.10).

In describing the elective program, Harder defined a Content Elective as referring "to content within a course from which a selection can be made by the teacher, by the students, or through mutual cooperation" (p.15). Compulsory Elective is defined as, "refers to a choice among designated courses" (p.16), which would be from the fine and practical arts. Option "refers to a free choice of any course for which the Department or the Local School District has developed approved content" (p.16) and locally developed courses are defined as "courses could be prepared and approved by the Local School District" (p.17).

The Discussion Paper reviewed current educational practices that were used to achieve the objectives of education and suggested modifications to both the objectives and the practices that would change the structure of education in Alberta. To bring about this change, the paper made ten recommendations as well as implications resulting from these recommendations.

It was suggested that with the changing times, a movement with a trend towards the encouragement of an increased specificity of knowledge and more concentration on skill development in both academic and career areas was occurring. In line with this movement it was suggested that the good aspects of Alberta Education should be retained, but that curriculum guides should be more specific in content, with more careful sequencing throughout the total school program. A general tightening in programming was recommended i.e.- implementation of more mandatory scheduling and less free choice options. It was also suggested that schools should take a more realistic approach regarding the limitations of their capabilities and confine the outlined objectives to what the school could realistically do.

The revised goals would have a direct effect on curriculum development and change. It was recommended that fine arts must acquire greater recognition as part of one's basic being and therefore must reach a more important level in the curriculum. The addition of religious education to the curriculum as a mandatory course created controversy.

The Discussion Paper recommended that curriculum content be more specifically spelled out and more carefully sequenced by curriculum writers. Student programming should include more mandatory subject scheduling with provision for adequate time allocation. Free choice options should be reduced, yet the objectives to be achieved should remain compatible with physical limitations of the school.

Each course would have to be redesigned to include essential core material that each student would have to master in order to advance to the next course. This would require careful sequencing and implementation of courses in the basic life skills component by using a systems approach. This would mean that each course, module or element of a course would be interdependent with material content designed to meet an objective of education. It was recommended that the skills required to survive and areas of knowledge attained by students who were graduating from high school in order to consider education successful must be identified. A proposed scheduling of these courses to achieve this result was included in the content of the paper.

It would be mandatory for high school students to take a compulsory elective from either the fine arts or the practical arts. At the junior high school level, courses in this category would be comparable to "A" options. Students who selected an option would have the choice to select any course which had been developed by the department or local school district that included approved content.

Curriculum changes advocated in the paper would center around curriculum modification which would enable more students to sample a wide variety of the practical arts. As a result it was anticipated that the

practical arts would achieve a higher rating in students' acceptance level which would result in an increased demand for practical arts teachers.

One of the weaknesses of the Discussion Paper was that it used the term "Practical Arts" repeatedly but did not define this term. However a definition can be inferred from the content of the paper to include: Industrial Education (Industrial Arts and Vocational Education), Home Economics and Business Education.

Foremost on the list of objectives of education in the Harder paper was the development of basic skills and knowledge in mathematics, science, and the practical and fine arts. Also included was the development of knowledge, skills, habits and attitudes required to respond to the opportunities and expectations of the world of work. Only 75 hours of options were to be available in the three years of junior high school. In Grade X, one optional course (125 hours) was made available. However, by the twelfth grade only two courses were mandatory. The paper recommended an increase of 200 hours of study in Grades X and XI in fine arts, and an increase of 300 hours of study in Grades X, XI and XII in practical arts, an increase of 150 hours of study in Grades X and XI in Health and Physical Education, 75 hours of study in Grade XI in Religious Study, and 100 hours of study in Grade X in modern living and 675 hours in junior and senior high in a second language.

Reductions recommended in the paper were in elementary schools - 270 hours in language arts, - 240 hours in mathematics, - 240 hours in science. Other shifts in time allotments also occurred but to a lesser degree.

Under one sub-heading of the paper, the goals and objectives of education were discussed which any intelligent person would find difficult to challenge. According to the paper, the ten goals of education for Alberta were:

- (1) Develop intellectual curiosity and a desire for lifelong learning.
- (2) Develop the ability to get along with people of varying backgrounds, beliefs and lifestyles.
- (3) Develop a sense of community responsibility which embraces respect for law and authority, public and private property, and the rights of others.
- (4) Develop self-discipline, self-understanding, a positive self-concept through realistic appraisal of one's capabilities and limitations.
- (5) Develop the ability to understand and respond to change as it occurs in personal life and society.
- (6) Develop skills for effective utilization of financial resources, community agencies, and leisure time.
- (7) Develop an understanding of the role of the family in society and promote satisfying family relationships.
- (8) Develop an interest in participating in the cultural pursuits of creative expression and appreciation.
- (9) Develop a commitment to the careful use of natural resources and to the preservation and improvement of the physical environment.
- (10) Develop a sense of purpose in life which is consistent with one's ethical and/or spiritual beliefs. (p.7)

An analysis of the content of the paper shows almost the entire paper is directed at the "Goals of Schooling" which the paper identifies as the "Objectives of Education" around which programs and activities should be planned, taught, and evaluated. According to the Discussion Paper the Objectives of Education should be considered in order that students:

- (1) Develop competencies in reading, writing, speaking, listening and viewing.
- (2) Develop basic knowledge and skills in mathematics, the sciences, and the practical and fine arts.
- (3) Develop the learning skills of finding, organizing, analyzing, and applying information in a critical and objective manner.
- (4) Develop knowledge, skills, attitudes and habits which contribute to physical, mental, and spiritual health and safety.
- (5) Develop basic knowledge and skills in social studies and an understanding of the meaning, responsibilities, and benefits of active citizenship at the local, national and international levels.
- (6) Develop the knowledge skills, attitudes, and habits required to respond to the opportunities and expectations of the world of work. (p.9)

An analysis of these objectives will show that they are interrelated with each objective complementing and reinforcing the other. The Alberta Teachers' Association (1978) in its response to Alberta Education and Diploma Requirements stated in its release:

The Association is generally supportive of the "Goals of Basic Education" as recommended by the Curriculum Policies Board, but has great concern for their division into the "Goals of Schooling" and "Goals of Education". The primary concern is that there is a significant danger that the "Goals of Education" will tend to be passed over when it comes to funding and when changing curriculum. (p.4)

The paper in content infers that a re-examination of schooling and its function were undertaken when this re-examination was limited to a modification of the goals of basic education in Alberta which was completed by the Curriculum Policies Board. The paper's proposal for change was not only premature but presumptive on the part of the writer.

The A.T.A. in its' response to the paper gave as its' major criticism, the fact that while the Harder paper gave lip service to the needs of the individual

It focuses upon fitting individuals into some preconceived notion of what society wants in an ideal person. It should be recognized that society's ideal person, if such a definition could be agreed upon, may not correspond to the one the paper identifies. (p.3)

In discussing practical arts, the association thought that the concept of exposing every student to practical arts was commendable but that the proposed allocation of time and grade levels were unrealistic and uncalled for. (p.6)

On 15 May, 1978 the Legislature of the Province of Alberta adopted the "Goals of Schooling" and the "Goals of Education". The Goals of Schooling are a near mirror image of the "Objectives of Education" found in the Discussion Paper except that the second and fifth objectives have been

modified so that they are more inclusive. Of the original ten goals of education that appeared in the Discussion Paper, goal statements 5, 6, 7, and 10 had been slightly modified when they were adopted by the Legislative Assembly.

It is interesting for the researcher to note that the central office administration of both the Separate and Public School Systems of the two major population centers of the province have elected to use the term "Practical Arts" when personnel refer to industrial arts and vocational education - another wind of change which may have implications for these two complimentary subject areas.

THE UNIVERSITY OF ALBERTA'S REACTION TO THE HARDER PAPER

It was not until the summer of 1978, that the Faculty of Education at the University of Alberta formally reacted to Alberta Education and Diploma Requirements. At that time, the Faculty of Education released a publication titled Curriculum Policy Making in Alberta Education. This publication was a compilation of papers written by members of the Faculty and by writers external to the province who contributed to the publication.

Twelve teacher educators from the University of Alberta, three from Ontario, and one from England contributed articles to the publication. Without exception, these authors were critical concerning the manner in which the curriculum was determined inadequate for the changing times and for the manner in which the policy recommendations regarding modifications in policy were stated in the Discussion Paper.

One teacher educator from the Faculty of Education who submitted an article was Dr. Henry W. Hodysh of the Department of Educational Foundations who analyzed the Discussion Paper for an historical context of curriculum change. Hodysh's analysis included both an external and an internal analysis of the historical factors that shaped the educational setting of Harder's proposal. From his analysis of the influences that helped to shape education in Alberta during the mid-twentieth century, Hodysh found that the

issues emerging out of the Harder Report were not unique to education in the 1970's.

Joel Weiss, a member of the faculty at the Ontario Institute for Studies in Education, provided a viewpoint from outside the province of Alberta. From what Weiss wrote, it is evident that he believed that Harder Report provided a "fairly straightforward account" of, the currently accepted view of the role of an educational system. Weiss was extremely critical of the Report, because it provided unsubstantiated opinion on how the system worked. In the Report, reference was made to a universal state of unrest on the part of a taxpaying public because that public felt it was not getting its value for the dollars invested. However, no documentation was presented in the Report concerning the deterioration of standards or of student competencies.

Most of the references that were made in the Report concerning standards and competencies were in the opinion of Weiss, related to opinion polls or newspaper articles which reflect what people perceive a system to be; not what the system actually is. Weiss was critical of the Harder Report because it ignored two basic components of evaluation in planning for change. The Report allowed for the provision of alternative means for achieving the desired state and the opportunity to test whether changes had occurred. Weiss felt the Report was written without regard for available literature on systems and evaluation. He was also concerned that the Harder Report concentrated on the political and technological domains of evaluation and to a large degree ignored the educational component. (Curriculum Policy Making In Alberta, 1978, p.224)

Leonard Berk, Ontario Institute for Studies in Education, in his article, "Tossing The Public A Bone" states Harder has taken public criticism of the schools, as the pretext for the restructuring of the system, when the trend of public opinion can really be left to question. In Berk's opinion, the Harder Report was an easy out for the Department of Education because the Report eliminated the necessity for the Department to take a stand on the issue.

Berk pointed out that the polls (Gallup) taken did not indicate any greater dissatisfaction with education when taken in 1978 than when taken in 1973 and, in fact, Alberta (Prairie Provinces) showed less dissatisfaction with education when compared with Canadians generally. (Curriculum Policy Making in Alberta Education, 1978, pp.19-21) Berk went on to state that from an educational point of view, the Harder Plan was unjustified. From a managerial point of view, this writer felt it was unpromising, as there appeared to be too much enforcement of standards through examinations and too much compulsion on teachers to do as they had been told, thus increasing teacher resentment to the Plan. The major criticism made by Berk was that the total Plan was chiefly a political gesture designed to defend against continued public criticism of the schools. (Curriculum Policy Making in Education, 1978, pp.34-37)

VOCATIONAL LIVING SKILLS - 1979

Only that section of the Report that deals with vocational education will be included in this section.

In 1979 the Calgary Board of Education published Vocational Living Skills, a report that was initiated at the trustee meeting in January 1978. This report was in response to the 1978 Trustee Priority for an assessment of the Vocational and Living Skills Programs and to identify future trends in these programs. The frame of reference of this report was extended to include: Business Education, Family Life and Sex Education, Home Economics, Industrial Arts, and Work Experience Education. Vocational Living Skills was an amalgamation of the following departments: Business Education, Family Life and Sex Education, Home Economics, Industrial Arts, Vocational Education and Work Experience into one major department. The members of the Board felt that: current programs in this area needed to be assessed; equipment and facilities needed to be reviewed; there was a need to establish an implementation schedule for improvements; better liaison between and with other agencies involved in vocational programs had to be established; more consistent evaluation procedures had to be recognized; and the future teacher supply had to be more accurately surveyed relative to future needs.

The extended report was to be completed for presentation to the Education Committee Meeting in May 1979. Each area was to acquire and summarize data pertaining to future needs as acquired with material starting with the year 1970.

To provide for student input into the Report, questionnaires were administered to junior and senior high school students. In a random sample of junior high schools, 4,519 questionnaires were completed, while at the senior high school level, 13,870 questionnaires were analyzed. (Vocational Living Skills Report, 1979, p.7)

The Vocational Living Skills Report was prepared in order to review the numbers and condition of facilities in operation and to determine what facilities were needed to be built or upgraded in the immediate future.

The Report was divided into six sections with each section dealing with one curriculum area. Three areas; Home Economics, Industrial Arts, and Vocational Education were to have equipment and facility upgrading on a cost shared basis between the provincial government and the Board of Education under the Building Quality Restoration Program (B.Q.R.P.) over a three year period of time (1980-81-82). This would assist in restoring these areas to a standard comparable to that which existed when federal funds were available for secondary school vocational education under terms of the T.V.T.A. Act.

An estimate was taken at 1979 costs for all equipment assigned to the vocational education shops that was supplied to these shops since the institution of the T.V.T.A. Act. These estimates were taken by calculating the original cost of the equipment and adding an inflationary factor of 5% for each year since the date of purchase. The following table outlines the estimated cost of replacing original equipment in the composite high schools where a vocational education program was offered. These costs have the 5% inflation factor added and are for the year ending 1979.

TABLE 19
COST TO REPLACE ORIGINAL EQUIPMENT
IN VOCATIONAL AREAS 1979

SCHOOL	COST
Bowness	\$ 447,389.11
Central Memorial	\$ 389,162.47
Crescent Heights	\$ 573,855.39
Dr. E. P. Scarlett	\$ 242,229.94
Ernest Manning	\$ 372,531.96
Forest Lawn	\$ 279,554.28
Henry Wisewood	\$ 116,263.80
James Fowler	\$
Lord Beaverbrook	\$ 941,951.00
Queen Elizabeth	\$ 41,442.47
Sir Winston Churchill	\$ 362,336.19
Viscount Bennett	\$ 71,333.57
Western Canada	\$ 703,475.84
William Aberhart	\$ 96,515.24
TOTAL	\$5,181,029.46

(Vocational Living Skills Report, 1979, p.E19)

Prior to 1969 the School Board did not have a plan in effect to systematically replace wornout or obsolete equipment for vocational education programs of study. From 1970 to 1974 \$30,000 per year was set aside for this purpose in vocational education. In 1975 a formal depletion reserve account was established and the following amounts were assigned to vocational education:

1975 - \$100,000.00
1976 - \$200,000.00
1977 - \$300,000.00
1978 - \$300,000.00

In order to introduce metrication to vocational education in what was considered adequate amounts \$56,547.00 was budgeted for 1977 and \$40,000 was budgeted for 1978 to provide funds for the smaller measuring instruments such as tape lines, rules, micrometers and other hand tools. The budgeted amount for this purpose in 1979 was not approved. (Vocational Living Skills Report, 1979, p.E19)

The provincial government has always acknowledged the fact that the vocational education program is more expensive than the academic program when costing pupil credits. Smaller class size plus maintenance and replacement of equipment is extensive. To offset these extra costs, the Government of Alberta has provided vocational grants to local school boards. Since 1970 the Calgary Board of Education has received the following grants:

TABLE 20
VOCATIONAL GRANTS TO CALGARY BOARD OF EDUCATION
1970 - 1978

YEAR	GRANT
1970	\$ 415,523.00
1971	\$ 650,595.00
1972	\$ 529,545.00
1973	\$ 579,982.00
1974	\$ 698,120.00
1975	\$ 616,527.00
1976	\$ 912,904.00
1977	\$1,109,175.00
1978	\$ 753,471.00
TOTAL	\$6,255,842.00

(Vocational Living Skills Report, 1979, pp.IAJ1.13 E20)

When the Provincial Vocational Grants were considered, the costs to the Calgary Board of Education to support a vocational student was less than the cost required to support an average high school student.

The pupil credit enrollment for 1977 technical vocational subjects was 94,277. Assuming an average of 7 periods a day for each pupil this would mean that technical-vocational subjects occupied the time of 2,692 students if they took these courses for the full day.

REVENUE - the revenue received for the Technical-Vocational Program consisted of:

1977 - Foundation Grant		
2,692 students @ 1256.60	=	3,382,767.20
1977 - C.P.P. Grant		
2,692 students @ 6.80	=	18,305.60
1977 - Vocational Grant	-	<u>1,109,175.00</u>
TOTAL Grants for Technical-		
Vocational Students		\$4,510,247.80

EXPENDITURES - It was considered that expenses other than debt charges, teachers salaries and classroom and pupils supplies would be approximately the same as those for the general school population so they were prorated on the basis of 2,692/\$81,767 or 3.29% of the total 1977 expenditure in each area other than the three exceptions mentioned. Debt charges were not considered an expense because all vocational facilities were paid for from federal and provincial funds. Vocational teachers salaries were considered to be higher than average because of smaller class size so the actual teachers salaries assigned to the teaching of vocational subjects were used. Supplies and equipment were expected to be more expensive so actual expenditures were used to calculate cost.

Expenditures included:

Debt Charges	nil
Administrative Expenses	145,445.83

Teachers salaries and benefits	3,004,988.47
Supplies, Materials and Equipment	447,617.37
Maintenance and operation of facilities	698,977.34
Transportation and other services	<u>81,213.25</u>
TOTAL EXPENDITURES	\$5,197,653.18

The cost to the Calgary Board of Education after revenue was recovered from the Province was $\$5,197,653.18 - 4,510,247.80 = \$687,406.62$.
 Unsupported cost to the Calgary Board of Education per vocational student:

$$\frac{687,406.62}{2,692} = \$255.35$$

Unsupported cost to the Calgary Board of Education per average student:
 $40,820,200$ (supplementary requisition to City of Calgary) divided by $81,767$ (total student population) = $\$499.23$

Cost to the Calgary Board of Education to support a vocational student was $\$499.23 - \$255.35 = \$243.88$ less than that amount required to support an average student. (Vocational Living Skills Report, Beattie, 1970, p.E188)

BUILDING QUALITY RESTORATION PROGRAM (B.Q.R.P.)

The Building Quality Restoration Program is classified as a change agent that has influenced the vocational education component of industrial education because of the conditional funding of the program to update and upgrade equipment found in both vocational education shops and industrial arts laboratories in schools throughout the province. To participate in this program, school boards were required to match provincial funds on a 50/50 cost sharing basis. During the time that the program was in effect it operated on a project approval basis.

The B.Q.R.P. was a plan instituted in 1979 which was designed to upgrade the standards in school buildings to a level of efficiency acceptable to the participating school boards, Alberta Education and other provincial departments such as Occupational Health and Safety, and the

Provincial Fire Prevention Department. Included in the upgrading process were the electrical, mechanical and structural categories, code standards requirements relative to annunciator panels, emergency lighting and power services, heat and smoke detectors the upgrading of Vocational and Industrial Education equipment and aesthetic school modernization. Energy conservation was to be incorporated into all aspects of the upgrading.

The Building Quality Restoration Program was put into place by the provincial government on 1 January 1979. This program was to have a life cycle of five years except for funding to upgrade vocational education equipment. This program was to have a life cycle of only three years terminating on 21 December, 1981 but was extended to 30 June, 1982 because of incomplete transactions.

Although the program was designed to be extended for five years, there was to be an annual review to determine additions or deletions to the Program. The code requirements were to be monitored on an annual basis, with the possibility of sections of it being terminated at the end of any year.

The Restoration Program was designed to assist school boards in improving the quality and prolonging the life of existing school facilities. The modernization of schools and replacing or upgrading of vocational equipment was intended to meet the educational program requirements. Any major components of school buildings which had succumbed or failed for any reason other than vandalism would qualify under the Program, as would any structural change or addition which would result in energy conservation or the implementation of regulations of the Occupational health and Safety Division and Alberta Labour. The Program was intended to alleviate the financial stress for school boards in these areas. Financial support to the schools at the termination of the program on 31 December, 1983 will total \$94.5 million. Of this amount, \$12.5 million was allocated to vocational education and industrial arts.

Applications for grant monies for the following categories were to be very specific in adherence to the Program in order to keep processing time

to a minimum.

Replacing major basic structural, electrical and mechanical components that have failed.
Modification required by changes in building code requirements.
Upgrading of vocational equipment.
Modernizing existing space for program purposes.
Energy conservation. (How Basic Education is Supported by the Government of Alberta, 1980, p.6)

Alberta Education recommended consultation where doubt arose concerning details of any specific category. All submissions of measurements whether for equipment or building modification were to be in metric units.

Equipment replacement was supported at fifty percent of approved costs or actual invoiced costs whichever was the lesser, prorated on a fifteen year life expectancy for certain pieces of major equipment. This aspect of funding applied to Vocational Education, Home Economics, and Industrial Arts facilities as approved by Alberta Education. A list of shops and laboratories that qualified for the program was compiled by Alberta Education. This list included a maximum cost figure each school board could qualify for by school. Alberta Education also provided a Master Equipment List for school boards with eligible shops or laboratories. It was recommended that each school board plan a three year upgrading program, by schools under its jurisdiction.

In each of the years 1979, 1980 and 1981 the board was required to send one equipment list per school to the Curriculum Branch, Alberta Education by 1 September for review. Prescribed forms had to be used by school boards that participated in the program.

The forms were reviewed by the Curriculum Branch who then forwarded the forms to the School Buildings Board for approval. Once the form was approved, the school board concerned was notified. For equipment purchases, the school board had to submit tenders to suppliers from the Alberta Education Master Equipment List in order to qualify for financial assistance. The Master Equipment List was modified for the years 1980 and

1981 through negotiations and the mutual agreement of teachers school boards and Alberta Education.

Alberta Education had to review invoices for equipment from school boards prior to processing the claims after which, the claims were subject to post audit by Alberta Education.

The B.Q.R. Program proved to be another source of money provided for vocational equipment from Alberta Education to local school boards to bring their equipment up to date and up to standard so that the most recent technology was incorporated into the vocational education programs of study found in the various career fields.

Over the three year period of the equipment program, composite high schools of the Calgary Public School System acquired modernized vocational education equipment that was considered essential because of curriculum revisions, normal attrition, and to keep the students' skill base current with the needs of the world of work.

Information in tables 21 and 22 show the schools of the system that participated in the equipment replacement program of B.Q.R.P. and the amount of money that each school was eligible for and the actual amount that each school received for the years 1979 and 1980.

TABLE 21

SCHOOLS ELIGIBLE FOR B.Q.R.P. FUNDS
ACTUAL FUNDS TO THESE SCHOOLS - 1979

HIGH SCHOOL	ELIGIBLE FUNDS	ACTUAL FUNDS
Bowness	\$ 51,974.00	\$ 18,133.10
Central Memorial	\$ 52,595.00	\$ 28,956.69
Crescent Heights	\$ 80,547.00	\$ 38,381.49
Dr. E. P. Scarlett	\$ 23,788.00	\$ 18,857.37
Ernest Manning	\$ 70,593.00	\$ 34,562.61
Forest Lawn	\$ 32,191.00	\$ 22,954.77
Henry Wisewood	\$ 26,689.00	\$ 13,232.29
James Fowler	\$ 84,811.00	\$ 50,853.22
Lord Beaverbrook	\$ 94,101.00	\$ 43,510.78
Shaughnessy	\$ 59,951.00	\$ 11,531.91
Sir Winston Churchill	\$ 28,033.00	\$ 21,351.72
Van Horne	\$ 59,951.00	\$ 1,939.06
Western Canada	\$ 29,260.00	\$ 1,398.00
William Aberhart	\$ 27,085.00	\$ 12,376.49
TOTAL	\$721,569.00	\$318,039.50
(Calgary Board of Education - O. Goodwin, Technical Officer)		

TABLE 22

SCHOOLS ELIGIBLE FOR B.Q.R P. FUNDS
ACTUAL FUNDS TO THESE SCHOOLS - 1980

HIGH SCHOOL	ELIGIBLE FUNDS	ACTUAL FUNDS
Bowness	\$ 51,974.00	\$ 53,981.71
Central Memorial	\$ 52,595.00	\$ 71,506.33
Crescent Heights	\$ 80,547.00	\$ 126,941.33
Dr. E. P. Scarlett	\$ 23,788.00	\$ 69,319.82
Ernest Manning	\$ 70,593.00	\$ 75,116.86
Henry Wisewood	\$ 26,689.00	\$ 62,257.03
James Fowler	\$ 86,727.00	\$ 144,879.50
Lord Beaverbrook	\$ 95,505.00	\$ 235,207.94
Shaugnessy	\$ 59,951.00	\$ 52,191.71
Sir Winston Churchill	\$ 28,033.00	\$ 122,120.75
Van Horne	\$ 59,951.00	\$ 89,088.76
Viscount Bennett	\$ 12,044.00	\$ 31,667.95
Western Canada	\$ 61,766.00	\$ 125,705.32
William Aberhart	\$ 26,689.00	\$ 38,994.13
TOTAL	\$769,053.00	\$1,345,303.30
<u>(Calgary Board of Education - O. Goodwin, Technical Officer)</u>		

Because of the time lag between the time that 1981 forms were reviewed by personnel of the Curriculum Branch and their return to the school board for processing, the monies spent for equipment replacement for 1981 were not available to the researcher.

Other aspects of the B.Q.R. Program were related to general building improvements. It was not the intent of this research to investigate these aspects of the program.

CHAPTER IX

SUMMARY, OBSERVATIONS, CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER STUDY

INTRODUCTION

This chapter is the concluding chapter of this thesis and will be divided into three major sections. The first section will summarize the research methodology, the findings resulting from the research and the conclusions that were drawn from the research findings. The second section will be observations of the researcher that were made during the course of the study. The third and final section of this chapter will be recommendations for further study for other researchers who may wish to investigate some of the recommendations.

SUMMARY

The major purpose of this study was to describe from an historical perspective (1900-1982) the development and expansion of vocational education in the secondary schools of the Calgary Public School Board. (Also referred to in this report as the Board.)

To support the major purpose of the research five ancillary objectives were written to supplement that purpose. These objectives were: to identify the amount of money that was spent by the Calgary Public School Board to bring on-stream vocational education programs of study in comprehensive high schools; to identify the number of vocational education student places that were made available by the building program of the board; to trace the growth and development of vocational education programs of study in the comprehensive high schools of the Board; to examine the leadership contribution that personnel from Alberta Education made to the growth and development of vocational education; the last of these supporting objectives was to provide a brief description of the role that the Department of Industrial and Vocational Education of the University of Alberta had on the preparation of vocational education teachers.

Both limitations and assumptions were established for the research. The study was limited to: the vocational education programs of study that were offered in the secondary schools administered by the Calgary Public School Board; the information that was available to the researcher from both primary and secondary sources and the accessibility of that information to the researcher; the fact that the major emphasis of the study was on vocational education only.

Operational definitions for the following terms were established for this study: Calgary Public School Board; Comprehensive High School; Industrial Education; and Vocational Education.

DATA COLLECTION

To collect data for this study, the following primary sources were used: from Alberta Education; Curriculum Guides, Annual Reports, Junior Senior High School Handbooks, Minutes of Meetings, Position Papers, Discussion Papers, Memoranda, and Newsletters; from the Calgary Public School Board; Annual Reports, Minutes of Meetings and Reports; from the University of Alberta; Calenders, Position Papers and unpublished masters theses and doctoral disserations; from the provincial government; Acts, Agreements, Bills, and Regulations relevant to vocational education; and from the Federal government Acts related to vocational and technical education and annual reports from the Federal Department of Labour and Statistics Canada.

Secondary sources that were used in the data collection phase of this study included: newspaper articles and editorials, newsletters for parent teacher associations, published books, journals, periodicals, and published papers and monographs.

REVIEW OF RELATED LITERATURE

A review of the indices directed toward educational research revealed that no other research studies had been completed on the history of

vocational education in the Calgary Public School System. A number of masters theses and doctoral dissertations were identified that had a relationship to this investigation. These unpublished works and their relevancy to this study are reported in the second chapter of this report.

The first program that was the antecedent to vocational education was the pre-vocational education program that was established in 1914 at the Victoria School by the Calgary Public School Board. This program was designed for pupils 13 years of age and older who did not intend to proceed into high school. The pre-vocational program continued to serve the students of the system until 1935 when it was disbanded.

Major federal Acts to fund vocational education are included in the report because of their historical significance and because some of these Acts provided "seed money" to establish secondary school vocational education. The most significant of these Acts and Agreements between the federal and provincial government was the Technical and Vocational Training Assistance Act of 1960, which made vocational education at the secondary school level a reality. Of the total allocation of \$126,725,120 the province spent 63.2% of this money or \$80,070,000 on secondary school vocational education.

The implementation of the Act became the responsibility of the Department of Education and its personnel. Through the cooperation of vocational education teachers, representatives from industry, personnel from the non-university post-secondary education section, and personnel from other provincial agencies, curricula were designed and implemented for vocational education programs of study.

Since the latter part of the decade of the sixties both the provincial government and local school boards have enticed trade people to become vocational education teachers by providing them a bursary to attend university. These were conditional bursaries because the recipient had to serve a minimum of two years in a secondary school vocational education program in order to satisfy the terms of the bursary agreement. Between

1962 and 1970 the board provided bursary support to 122 trades people to attend the University of Alberta to become vocational education teachers.

The provincial bursary has been increased each time that it was re-instated in order to keep pace with the inflationary spiral. At the time of the study a bursary student was receiving \$1,100 per course when that course lead to initial certification - the provisional teaching certificate.

In the last decade and a half a variety of change agents have impacted on the terminology, curriculum design and the structure of vocational education. Among these change agents were: the shift to industrial education with its module structure of five credits per module; the Work Experience Education Program of the "Industrial Education Matric" a program to provide students with the opportunity to participate in work activities while still attending high school; the Planning, Programming, Budgeting and Evaluating system that was instituted by Alberta Education to help school administrators to establish improved methods for planning and allocating resources more effectively; and the publication and distribution of Alberta Education and Diploma Requirements with the implied change in terminology for industrial education to practical arts.

Calgary was one of the first boards to bring in any aspects of vocational education, by the institution of the pre-vocational program in 1913-1914. Information in this study shows that the history of vocational education in the Calgary Public School system can be traced back to the McDonald Training Plan which was commenced in 1900. Thirteen years after the termination of this plan, the board brought in its first pre-vocational school that was established at the Victoria school. In actuality, the program in this school was a pseudo form of vocational education because the courses were not taught by teachers with journeyman or equivalent qualifications.

It was evident that the Federal government became heavily involved in providing conditional funds to vocational education through a number of

legislative enactments for both technical and vocational education. The most recent of these Acts was the Technical Vocational Training Assistance Act (1960) that provided a total of \$79,230,220 to the province of Alberta for the support of technical and vocational education. To this amount the province added \$45,521,920 for a total amount of \$126,725,120. Of this amount, \$65,750,000 or 63.2% was allocated to secondary school vocational education. From 1961 to 1969, the Calgary Board of Education received \$19,187,569.00 for the construction and equipping of seven vocational education high schools, and the addition of vocational education wings to three other schools.

The Department of Education lost no time in establishing a structure to design curricula and to put vocational education into the schools of the province. The Department of Education identified the vocational education programs that would be offered, prepared curriculum guides, provided a numbering system for both provincially and locally designed curricula, and provided bursary support for tradesmen who wished to attend university.

The Department of Education, through the Curriculum Branch and its "Rationale for Industrial Education" was responsible for amalgamating vocational education, industrial arts, business education and work experience education under the rubric "Industrial Education". The Department of Education also clustered the previous 19 vocational education programmes of study into seven career fields that are found in the Industrial Education Matrix. Since 1970, when the Matrix first was made public, it has undergone an evolutionary process, so that both Aircraft Maintenance and Fashions and Furnishings have been removed and are classified as locally approved courses.

Work Experience education is a relatively new program of study of the Matrix because it has only been in existence since 1970. In this program, the students spend part of their school day in a work environment, learning the relationship that exists between school and work. This program is governed by a number of provincial acts and regulations. These acts and regulations are discussed in chapter V of this report.

OBSERVATIONS

It was observed while conducting this research that the Calgary School Board took definite advantage of the funding arrangements under the T.V.T.A. Act because of the building program that expanded the number of high schools from 3 prior to the Act to 15 within the period of 9 years. (1962-1971). Because of this building program, vocational education has become one of the most sought after programs of the system.

It was observed during the course of the research that the Department of Education, through its Curriculum Branch and High School Inspectors for Vocational Education, assumed a leadership position in implementing the terms and schedules of the Act when it took responsibility for curriculum and program development.

The University of Alberta through the Department of Industrial and Vocational Education assumed a leadership role in teacher education, by putting in place and offering a program of study for the preparation of vocational education teachers.

An observation that was made concerning the transition in terminology from vocational education and industrial arts to industrial education could be considered suspect because of some of the statements that were made in the introduction of the "Rationale" because many of these statements were not supported by the evidence of bonafide research, but were based on the opinions of the writer of the "Rationale".

It was observed that a similar procedure is currently being used to foist upon the teachers of industrial education, a new term, practical arts, that would include business education, industrial education, home economics and industrial arts. This was lucidly illustrated by the reactions of authors who had contributed to Curriculum Policy Making in Alberta Education.

It was observed during the data collection phase of the study, that personnel of Alberta Education provided excellent cooperation to the researcher.

The actions and accomplishments in vocational education may not have been great in all instances but, it must be admitted, they have been improving steadily and they must continue to improve. Costs of equipment and maintenance have been considerable, yet it would appear that with three levels of government involved, money for essential upgrading can be acquired. It is true that some establishments have been closed, particularly in areas where populations have shifted or were on the sparse side at the outset, but in most instances, it would appear that the money in buildings and equipment was wisely invested and properly located.

Acceptance by students, parents and businesses in the communities has been slow but positive. The high school student population from 1974 to 1981 in the Calgary Public School System increased by 12%. In the same period of time (7 years) the student population in the vocational subject areas increased by 55%. In a recent interview with the supervisor of vocational education, he indicated his major concern at that time was that there would be no further extension to student population in vocational subjects unless more schools were built because our system was already full and could not handle any substantial increases. Students obviously are aware of the benefits of vocational education, although the benefits may not have reached the level of the original goals established. Unfortunately, the change has been so gradual that it is difficult to measure and compare with much acumen, the slow rate of change which is occurring.

The increased flexibility in programming is making vocational education readily available to many more students than in the early days, but vocational education, specifically speaking, does not mean now what it did then. Throughout the time span of this research, not only has the meaning of vocational education changed, but because it has been more generally accepted as a term, it has been misused and abused by educators, let alone parents and individuals who had only heard the term a few times. In 1901

vocational training was any form of education other than that related to admittance to university studies. That term became manual training, as specified in the School Grants Act in 1915. The federal government in 1929 defined technical education as any form of vocational, technical, or industrial education or instruction approved as necessary or desirable to aid in promoting industry and the mechanical trades and to increase the earning capacity efficiency and productive power of those employed therein. The T.V.T.A. Act described vocational education as any form of instruction, the purpose of which was to prepare a person for gainful employment in any primary or secondary industry or in any service occupation or to increase his skill or proficiency therein. By 1977 Harder's Discussion Paper had classified vocational education under the term "practical arts", whether this was an attempt by the department to lump the areas of industrial arts, vocational education, home economics and business education under a common umbrella or not, remains to be seen. In any case, the Calgary system currently is using the term "industrial education" when referring to industrial arts. No wonder there appears to be confusion because of the ambiguity of the terms usage.

In the recent upgrading of shops and equipment under the B.Q.R.P. supported provincially, the industrial arts and vocational education shops and equipment were funded from the same financial pool. In past periods the two areas were strictly separated, partially because federal involvement was restricted to vocational education facilities, but it would appear that there is a definite move towards amalgamation and integration by the provincial government of these areas. This in itself may not be too drastic a solution to the problem of administration but the philosophies of the two areas, although closely related, are incompatible with each other. So long as vocational education is destined to provide "in-depth" training to students in a subject area, this process contravenes the philosophy of industrial arts which is to provide a wide ranging variety of experience in many areas and processes to as many students as wish to acquire credits in this setting.

School and central office administrators should not lose sight of the original reason for vocational education being in the high school system. The acute shortage of technicians has not been alleviated. The rapid advancements in technology have outstripped the progress made in the education of technicians so that the gap between the two which was apparent in the early sixties is more evident today. The number of federal and other dollars which were invested in shops and equipment have not reaped the benefits expected at the time of investment. If the movement continues to reduce the depth of subject area teaching from the curriculum, can the local authorities withstand adverse criticism which may be publicised by advocates of vocational education, particularly if business and industry become the complainants? In the days of constraint and attrition which lie ahead, funds available for this type of education may be subjected to further close scrutiny.

There are those who advocate vocational educations' removal from the high schools, restricting placement into post-secondary institutions. Many of these advocates have vested interest in the building of their own empires. Others feel that saving the tax payers dollar will make them successful politicians. Both of these types are incorrect in their assumptions. The average apprenticeship or training period in the technical areas is four years with a journeyman's supervision. Upon successful completion, the trainee becomes qualified to go into the field and cope with the complexities and frustrations of the working world. Education does not cease at that point. It has become a lifetime of learning. Why not allow students who have an interest in the technical areas to become acquainted with them and proceed to get an early start? By commencing early, greater individual achievement may be acquired. Contributions to progress can collectively be calculated by greater individual efforts which will produce refinements and improvements in our technical way of life.

Another observation that was made was that vocational education teachers have entered the profession with variegated backgrounds and experiences. The system has stultified their progress by constricting their operations to the one area in the system - teaching. Many of these people

have other qualifications and attributes which have either been overlooked or ignored, mainly because it has been conducive to the well-being of the system. Vocational teachers are a peculiar breed of person, and once inducted into the system, have been retained in a shop-classroom setting until retirement. Too often they have become too essential in the vocational area to be sprung loose to be used in any administrative capacity. The paucity of exceptions speaks for itself. In some respects, vocational education teachers have no one but themselves to blame for this circumstance, as, too often it occurs that the vocational education teacher confines activities to those which occur in the shop area. Too often it becomes a small empire in which there is some haven for security. This, in part, has led to and been a contributor of some of the erosion of vocational education within the secondary school system.

When the rapid expansion of vocational education into the secondary school system occurred in 1963 and later, the original plan was designed to accommodate technically inclined students into two schools in Calgary; one on the north side of the Bow River and one on the south side. Time and manipulation turned these two schools into composite schools, with technical facilities and academic administrators. Other schools which were constructed along similar lines fell into a similar pattern. To this day, the system has remained largely stereotyped in this fashion. With all of the facilities the Calgary Public System has in place, and with some areas which are experiencing declining populations, and in light of continuing technician shortages there has never been even a pilot project which would place technically inclined students in a school where technically oriented English, Mathematics and Sciences would be taught by vocational teachers and administered by vocational administrators. Allowing one or two years for maturity, the success of S.A.I.T. speaks for itself. The bewilderment created by the proliferation of choice on the academic scene continues, although the Department of Education currently is showing signs of decreasing it by reversing the trend of choice.

Some criticism at the provincial level has to be meted out. The only full time representative of vocational education at the Department of

Education level has too often been removed from the local scene to deal with vocational education in foreign lands to be able to devote much time and effort to problems of vocational education in this province. Representation of vocational education at the department level has naturally eroded and industrial arts philosophy has been imposed to cover any deficiencies in vocational education.

After twenty years of revitalized vocational education, the patient may be alive, but it is not well. A continuation of the direction it is heading will create further watering down of the previously distinctively recognizable features which were a part of vocational education and it will become indistinguishable from industrial arts. If this occurs we can assume that after all the time and efforts expended, to say little of the dollars invested, the vocational education concept will be a failure in the high school system in Alberta.

The trend from the department level would appear to be the light at the end of the tunnel in some respects. The competency based concept considered by the Department of Education will be contingent upon a mastery of learning approach to education. This approach has always been a basic part of vocational education and fits particularly well into industry's scheme of operations. Industry, however, has not supported adequately the vocational education programs instituted in the schools. Progress is slow in education and employers become too impatient with a lack of tangible results. Work experience in the educational system has been successful, largely in placement of individual students into individual businesses. Industry has been able to acquire a first hand assessment of students and been able to hire potential employees in this manner. Unfortunately, insufficient publicity has stifled the position to which work experience is entitled. More involvement of advisory committees at the local level should be encouraged and demanded. Only by communication at this level, will industry become acquainted with our graduating populace.

In order to not appear entirely negative the researcher must indicate some appreciation for many years of dedicated service on the part of

vocational teachers within the Calgary Public System. Without this dedication vocational education would be non existant today. The totally organized structure deserves mention, as many administrators who come from academic areas did recognize and support vocational education concepts as an essential part of the system.

WEAKNESS OF THE REPORT

One of the major weaknesses of this research was the fact that the researcher did not validate information that was taken from secondary sources with information that appeared in primary sources. To validate information that was quoted from newspaper articles, the researcher should have validated that information by cross referencing it with information that appeared in relevant minutes of school board meetings. Had this research procedure been used the accuracy of some of the information in the report would have been increased.

RECOMMENDATIONS FOR FURTHER STUDY

Further research into troublesome areas should be encouraged by financial grants and pilot projects. The provincial grant structure should be revised in a more simplified form and more equitably distributed to all schools with vocational facilities in the system. Inventory control methods require updating to a point where computer control of inventories will be realized in a central control system. Computer usage as a teaching aid is only commencing to emerge as an item of value in the scheme of things. Computer language and usage will evolve as a part of our development, initially in the home, with adaptation to specific programming in the schools. At a recent Canadian Vocational Association Convention in Toronto, it was asserted that senior high students are already too late in the evolutionary scheme of things to be able to take full advantage of the computer age. Extensive research will be required to utilize computers to the best advantage in our system. Forecasts indicate Timex, the people who pioneered inexpensive watches, are about to place a cheap computer on the market, which will make computers available to everyone which will

revolutionize the computer market. Vocational education is on the threshold of new horizons and the progress we make in the future will be directly proportioned to the innovations we fabricate today.

The Industrial Education Specialist Council, which is an A.T.A. sponsored group, has been constructed for and dedicated to professional development in industrial education over the years. It has been instrumental in being the communicator between the profession, the University of Alberta, and the provincial government of Alberta. It is recognized as an essential component in the progress of education in Alberta. (The archives in Alberta have become as mobile as the government and are in danger of being lost or destroyed). Research into the birth and life of the Council could provide an interesting topic for investigation.

There are a number of significant topics that could be developed that could use the archival material of Alberta Education and its predecessor, the Department of Education. Among these topics are the Rules, Regulations, Decrees and Acts that were used to provide grants to school boards for vocational education. The classification of these documents housed in files of Alberta Education should be classified according to the major areas of Industrial Education; namely Industrial Arts and Vocational Education to make the work of researchers less onerous.

It is recommended that other researchers replicate this study using the major population centres of the province as their base so that a complete historical base for vocational education can be established.

APPENDIX A

In this appendix can be found verbatim copies of office consolidations of the following federal acts that were enacted to provide funding for vocational and/or technical education. These office consolidations are provided for the benefit of the reader who might wish to review a particular act referred to in the content of this report.

THE UNEMPLOYMENT AND AGRICULTURE ASSISTANCE ACT - 1939

YOUTH TRAINING ACT - 1939

THE VOCATIONAL TRAINING CO-ORDINATION ACT 1942

TECHNICAL AND VOCATIONAL TRAINING AGREEMENT (1961)

THE UNEMPLOYMENT AND AGRICULTURAL ASSISTANCE ACT- 2, May 1939

Administered by the Minister of Labour

1. The Governor in Council may out of monies appropriated by Parliament, authorize the execution of such undertakings as the Governor in Council may determine to be in the general interest of Canada and requisite for the purposes of this Act, and for such purposes may authorize the performance of such acts and the execution of such agreements and contacts as the Governor-in-Council may deem necessary and expedient.

The Governor-in-Council may enter into agreements:

- (a) with any of the provinces respecting the alleviation of unemployment conditions and of agriculture distress therein and to assist those in need.

- (b) with corporations or partnerships or individuals engaged in industry respecting the expansion of industrial employment and such agreements may provide for payments for any of the purposes aforementioned to be made out of moneys appropriated by Parliament for the fiscal year 1939-40.

5. (1) The Governor-In-Council where necessary may out of any unappropriated moneys in the consolidated Revenue Fund, grant financial assistance to any province by way of loan, advance, or guarantee for the purpose of assisting the province to pay its share of expenditures incurred for the purposes mentioned in paragraph (a) of section four of this Act, and for the same purposes under the provisions of the Youth Training Act, 1939, to an amount not exceeding in the aggregate the maximum amount which may be payable by the province for its share of such expenditures under any agreement between the Dominion and the province entered into under the authority of this Act or the Unemployment and Agricultural Assistance Act, 1938 or the Youth Training Act 1939, as well as the amount for which the province may be

obligated by way of loan in connection with the cost of any undertaking for which commitments were made under the Unemployment and Agricultural Assistance Act 1938 and which may be continued under agreements entered into under the authority of this Act.

(2) The Governor-In-Council may renew or consolidate for such periods and upon such terms as the Governor-In-Council may determine, loans, advances or guarantees made, given or renewed under the authority of The Unemployment Relief and Assistance Act, 1936, The Unemployment and Agricultural Assistance Act, 1937. The Unemployment and Agricultural Assistance Act, 1938, or this Act, and may accept such Treasury bills, bonds, debentures, or other securities as may be approved by the Governor-In-Council as security for the payment of any indebtedness due by a province to the Dominion arising out of expenditures, advances or loans heretofore or hereafter made for the alleviation of unemployment conditions and of agricultural distress and to assist those in need.

6. No financial assistance shall be granted to any province under this Act unless the province agrees to furnish such information and permit such examination and audit to be made as the Dominion may deem necessary, and no financial assistance by way of loan, advance, or guarantees shall be granted to any province under this Act unless the province furnishes the Dominion, from time to time, as required with certified statements as to its financial position in such detail and in such form as the Dominion may require.
10. Subject to the approval of the Governor General-In-Council, the Minister may appoint such officers, clerks, and employees as may be necessary to carry out the purposes of this Act and the Youth Training Act, 1939.
12. All the provisions of this Act, except such as are contained in subsection two of section five and in this section shall expire on the thirty first day of March 1940, but any obligation or liability incurred or created under the authority of this Act may be paid and

discharged notwithstanding the expiration of the aforesaid provisions of this Act on the said date.

(Statutes of Canada 1939 Parts I & II, pp.169-171)

YOUTH TRAINING ACT

An Act to provide for the Training of young people to fit them for Gainful Employment, assented to 19 May, 1939.

1. This Act may be cited as the Youth Training Act, 1939
Minister - Minister of Labour
2. In this act the expression
 - (a) "Minister" means the Minister of Labour
 - (b) "Department" means the Department of Labour
 - (c) "Province" means and includes each of the provinces of Canada but NOT the Northwest Territories or the Yukon Territory.
 - (d) "Unemployed Young People" means male or female individuals between 16 and 30 years of age, inclusive not gainfully employed and whose families are not in a position to pay the full cost of their training and who are:
 - (i) registered for employment with the Employment Service of Canada; or
 - (ii) deserving transients certified as eligible by an appropriate provincial authority.
3. For the purpose of promotion and assisting in the training of unemployed young people to fit them for gainful employment in Canada, the following sums aggregating four million five hundred thousand dollars, shall be appropriated and paid out of the Consolidated Revenue Fund of Canada during each fiscal year for the period of three years beginning with the year ending the thirty first day of March 1940 namely:

- (a) During the fiscal year ending March 31, 1940 one million five hundred thousand dollars.
 - (b) During the fiscal year ending March 31, 1941 the sum of one million five hundred thousand dollars.
 - (c) During the fiscal year ending March 31, 1942 the sum of one million five hundred thousand dollars.
4. Any portion of any appropriation authorized under this Act which may remain unexpended at the expiration of any of the said fiscal years, shall be carried forward and remain available according to its apportionment for the purposes of this Act during any one or more of the succeeding fiscal years. Provided that no portion of the said four million five hundred thousand dollars shall be paid to any province after the thirty first day of March, one thousand nine hundred and forty three.
5. This Act shall not apply to any province unless and until the Government of such province has by Order in Council, signified its agreement to cooperate with the Minister in carrying its provisions into effect.
6. The grant payable to any province in any year under the provisions of this Act shall be determined by the Governor-In-Council: provided that the amount allotted to a province shall not exceed an amount equivalent to that which the provincial government shall agree to expend on projects undertaken under the provisions of this Act within such year.
7. The Governor-In-Council may appoint a supervisor of youth training who shall hold such office for such period of time and upon such terms and conditions as may be determined by the Governor-In-Council.
8. Payments made to any province under the provisions of this act shall be conditional upon an agreement being entered into between

the Minister and the Government of the province as to the terms, conditions and purposes of and for which payments are to be made and applied and such agreements shall be subject in all cases to the approval of the Governor-In-Council.

9. The Governor-In-Council may make all such orders and regulations as may be deemed necessary or desirable to carry out the purposes and intentions of this Act.
10. This Act shall be administered by the Department of Labour.
11. A report containing a full and correct statement of moneys expended and obligations contracted under this Act shall be laid before Parliament within thirty days after the end of each fiscal year or, if Parliament is then not in Session, shall be published and made available for distribution by the Department of Labour.

(Statutes of Canada, 1939, Parts I-II, pp.269-271)

THE VOCATIONAL TRAINING CO-ORDINATION ACT 1942

1. This Act may be cited as The Vocational Training Co-ordination Act, 1942.
2. In this Act, unless the context otherwise requires:
 - (a) "Council" means the Vocational Training Advisory Council appointed under this Act;
 - (b) "Minister" means the Minister of Labour;
 - (c) "Vocational Training" means any form of instruction, the purpose of which is to fit any person for gainful employment or to increase his skill or efficiency therein, and, without restricting the generality of the foregoing, includes instruction to fit any person for employment in agriculture, forestry, mining, fishing, construction, manufacturing, commerce or in any other primary or secondary industry in Canada.
3. (1) The Minister may undertake projects to provide Vocational Training:
 - (a) to fit persons for employment for any purpose contributing to the efficient prosecution of the war whether in industry or in the armed forces;
 - (b) to fit for any gainful employment former members of His Majesty's Canadian Forces or former members of any of His Majesty's Forces who were at the time of enlistment domiciled in Canada or any other persons with respect to whom authority for the granting of Vocational Training is vested in the Minister of Pensions and National Health, if such former members or other persons are approved for such training by such Minister;

- (c) to fit for gainful employment persons directed by the Unemployment Service Commission to attend a course of training pursuant to section twenty-eight of the Unemployment Insurance Act, 1940; and
 - (d) to fit persons for employment for any purpose contributing to the conservation or development of the natural resources vested in the Crown in the right of Canada.
3. (2) The Minister may undertake and direct research work pertaining to Vocational Training and may undertake the dissemination of information relating to such training.
4. (1) The Minister may, with the approval of the Governor-In-Council, enter into an agreement covering any period with any province to provide financial assistance for:
- (a) any project, undertaken in the province to provide Vocational Training for any of the purposes set out in section three of this Act;
 - (b) the continuation after March 31, 1942, of any project for training heretofore carried on in the province under the Youth Training Act, 1939;
 - (c) any Vocational Training project for the conservation or development of the natural resources vested in the Crown in the right of the province;
 - (d) the development and carrying on by the province of any project recommended by the Council to provide Vocational Training for apprentices or supervisors in any industry; and
 - (e) the development and carrying on after the present war or Vocational Training on a level equivalent to secondary school level.

- (2) No agreement made in respect of any of the matters set out in paragraph (b) to (e), both inclusive of subsections one of this section, shall provide for payment to the province of a percentage of the cost of any Vocational Training project, including the cost of the training facilities, in excess of the percentage of such cost contributed by the Province.

THE VOCATIONAL TRAINING ADVISORY COUNCIL

5. There shall be appointed by the Governor-In-Council a Council to be called "The Vocational Training Advisory Council".
6.
 - (1) The Council shall consist of a chairman and not more than sixteen members.
 - (2) The Chairman and other members of the Council shall hold office for a period of three years except in the case of the members first appointed and of any member appointed to a casual vacancy, who shall hold office for such period, not exceeding three years, as may be determined by the Governor-In-Council.
 - (3) There shall be equal numbers of members on the Council specially representative of employers and of employees, and the remainder of the members may be representative of such other groups of persons or interests as the Governor-In-Council may determine.
 - (4) A majority of the members shall form a quorum for any meeting of the Council.
 - (5) The Council may act notwithstanding any vacancy in its membership, provided that the membership is not fewer than ten members.
 - (6) The Council may make rules for regulating its proceedings and the performance of its functions and may provide therein for the delegation of any of its duties to any special or standing Committees of its members.

- (7) The minister may provide the Council with such professional, technical, secretarial and other assistance as the Council may require but the provision of such assistance otherwise than from the public service of Canada shall be subject to authorization by the Governor-In-Council.
 - (8) The Minister shall make available to the Council such information as the Council may reasonably require for the proper discharge of its functions under this Act.
 - (9) The members of the Council shall serve without salary but each member shall receive his actual travelling expenses which have been incurred with the approval of the Minister in connection with the work of the Council and a per diem allowance of ten dollars for each day he is necessarily absent from his home in connection with such work.
-
- 7. The minister may from time to time refer to the Council for consideration and advise such questions relating to the operation of this Act as he thinks fit and the Council shall investigate and report thereon to the Minister, and shall make such recommendations as the Council sees fit in connection therewith.
 - 8. This Act shall be administered by the Minister of Labour.
 - 9. A supervisor of training and such officers, clerks and other employees necessary for the administration of this Act shall be appointed in the manner authorized by law.
 - 10. The Governor-In-Council may make regulations for the purpose of giving effect to this Act.
 - 11. The Minister shall as soon as possible, but in any case within sixty days after the termination of each fiscal year, prepare an annual report on the work done, monies expended and obligations contracted under this Act, and shall upon completion thereof lay such report before Parliament if Parliament is then sitting or if

Parliament is not then sitting, within fifteen days after Parliament is next assembled.

12. Expenditures incurred under this Act shall be paid out of monies appropriated by Parliament for carrying out the purpose of this Act.
13. The Vocational Education Act 1931 chapter fifty nine of the Statutes of 1931, is repealed.
14. This Act shall be deemed to have come into force on the first day of April 1942.

(Statutes of Canada, Part I, p.121)

TECHNICAL AND VOCATIONAL TRAINING AGREEMENT

THIS AGREEMENT made this.....day of A. D.

BETWEEN:

THE GOVERNMENT OF CANADA (hereinafter called the Federal Government)

OF THE FIRST PART

AND

THE GOVERNMENT OF THE PROVINCE OF ALBERTA (hereinafter called the Province)

OF THE SECOND PART

THIS AGREEMENT is entered into on behalf of the Government of Canada by the Minister of Labour and on behalf of the Government of the Province of Alberta by the Minister of Education.

WHEREAS the Technical and Vocational Training Assistance Act authorizes the Minister of Labour, with approval of the Governor in Council, to enter into an agreement with any province, for a period not exceeding six years, to provide for the payment by Canada to the province of contributions in respect of the costs incurred by the province in undertaking programs of technical and vocational training and in providing training facilities.

WHEREAS the rapidly-changing technology of industry and business is increasing the Canadian economy's requirements for trained manpower of all kinds.

AND WHEREAS the continued growth of the Canadian economy, and the welfare of all Canadians, is dependent on the effective development of the skills and knowledge of the labour force.

AND WHEREAS there is an urgent requirement for the development of training opportunities for workers now in the labour force as well as for youth who will be entering employment.

AND WHEREAS since industry makes an important contribution to the development of manpower skill, the provinces and the Federal Government should encourage and stimulate co-operative training programs with industry.

AND WHEREAS the purpose of the Technical and Vocational Training Assistance Act is to provide assistance for the development and operation of programs for the training of Canada's manpower.

NOW THEREFORE, it is agreed by and between the parties hereto as follows:

1. In this Agreement unless the context otherwise requires:
 - (a) "Minister" means the Minister of Labour of Canada and includes any person designated by the Minister to act for him under this Agreement;
 - (b) "technical and vocational training" means any form of instruction, the purpose of which is to prepare a person for gainful employment in any primary or secondary industry or in any service occupation or to increase his skill or proficiency therein, and, without restricting the generality of the foregoing, includes instruction for that purpose in relation to any of the following industries or occupations: agriculture, forestry, fishing, mining, commerce, construction, manufacturing, transportation or communications, or generally, any primary or secondary industry or service occupation requiring an understanding of the principles of science or technology and the application thereof, except where such instruction is designed for university credit;
 - (c) "training facilities" means building and physical plant, machinery and equipment used for technical and vocational training;
 - (d) the expression "capital expenditures" includes expenditures, to provide technical and vocational training facilities by way of construction or purchase of buildings, exclusive of land, and additions or alterations to existing buildings as well as items of machinery and equipment, including office equipment, required for

all training programs under this Agreement and for the training of apprentices;

(e) "Provincial Director" means the provincial official appointed by the Province under paragraph 3 of the Agreement or the person designated by the Minister to act as Regional Director.

2. The province in consultation with the Federal Government will develop, organize and carry out training programs for the development of skilled manpower.
3. The Province will establish an appropriate administrative organization under a qualified provincial official to co-ordinate the training programs provided under this Agreement. The provincial official appointed by the Province in this paragraph may also be designated by the Minister, with the approval of the Province, to act as Regional Director to provide liaison with the Federal Director of Training for the purposes of this Agreement.
4. The Province will establish an advisory or consultative committee or board on the technical or vocational training of manpower, which shall meet regularly and on which there will be representation from employers, labour, provincial Departments of Education, Youth and Labour, the National Employment Service as well as such other federal departments or agencies as shall from time to time be agreed upon, as well as other departments and groups as may be deemed appropriate by the Province. Reports of meetings of advisory committees on training of manpower will be forwarded to the Vocational Training Branch, Department of Labour.

5. Programs

The program undertaken by the Province, in consultation with the Federal Government, to promote the development of skilled manpower in Canada will include those set forth below.

The Federal Government will contribute financial and other assistance to these programs subject to the terms and conditions of this Agreement, its Appendix and Schedules, and to funds appropriated by Parliament.

The Federal Government will contribute to the creation of training facilities required for these programs on the basis set forth in paragraph 7 below.

The Federal Government will contribute to such other programs as are added by agreement between the parties hereto on such basis of contribution as is approved by the Governor General-in-Council.

(1) VOCATIONAL HIGH SCHOOL TRAINING PROGRAM - (V.H.S.)

Program 1.

This program covers those courses, given as an integral part of high school education, in which at least one-half of the school time is devoted to technical, commercial and other vocational subjects or courses designed to prepare students for entry into employment by developing occupational qualifications. It may also include courses which provide students with an essential basis for further training after leaving regular high schools in accordance with regulations in Schedule 1.

The Federal Government will contribute to the operational costs of such programs and courses up to a total of \$15,000,000 to all provinces and territories during the six-year period April 1, 1961 to March 31, 1967 subject to the following conditions:

- (a) The annual contribution of the Federal Government shall not exceed \$3,000,000 in any one fiscal year;
- (b) the annual allotment for each province or territory shall be determined as follows:
 - (i) an initial allotment of \$30,000 to each province and \$20,000 to each of the Yukon and Northwest Territories; plus

- (ii) the balance of the annual federal contribution divided among the provinces and the territories on the basis of the percentage of the number of persons, 15 to 19 years of age inclusive, residing in each province to the total number of persons in such age group in Canada as determined by the latest census.
- (c) the amount of the annual allotment to each province in accordance with the above formula shall be reported to the Province by the Minister and in no case shall the federal contribution exceed 50% of the provincial costs;
- (d) the Federal annual allotment provided under this program may be used at the discretion of the Province for:
 - (i) actual provincial costs, or
 - (ii) authorized provincial grants for operating costs of approved technical and vocational secondary school programs and courses.
- (e) No part of the annual allotment may be used for capital expenditures;
- (f) the school programs or courses eligible for federal reimbursement shall be in accordance with regulations of Schedule 1.
- (2) TECHNICIAN TRAINING PROGRAM - (T)
Program 2.

This program will provide training at the Post-High School level, to an agreed standard of qualification in the principles of science or technology and other fields with emphasis on the application thereof, except where such training is designed for university credit.

The Federal Government will contribute 50% of provincial costs of approved projects or programs, in accordance with regulations of Schedule 2.

- (3) TRADE AND OTHER OCCUPATIONAL TRAINING PROGRAM -
(T.O.) Program 3.

This program will provide pre-employment training, upgrading or retraining for persons over the compulsory school attendance age who have left elementary or secondary school, and who require such training to develop or increase occupational competence or skills.

The Federal Government will contribute 50% of provincial costs of approved programs in accordance with regulations of Schedule 3.

(4) TRAINING PROGRAM IN COOPERATION WITH INDUSTRY - (T.I.) Program 4.

A program to provide training, in co-operation with industry, for supervisors, and upgrading or retraining for other persons employed in industry.

The Federal Government will contribute 50% of provincial costs of approved training programs in accordance with the regulations of Schedule 4. In cases where approved training is provided for persons who are unemployed for at least half of the work week but gainfully employed during the remainder of the week, the federal government will contribute 75% of the provincial training costs.

A separate Apprenticeship Training Agreement made, or which may be made, between the Federal Government and the Province provides for financial and other assistance in developing apprenticeship training in industry.

(5) PROGRAM FOR THE TRAINING OF UNEMPLOYED - (M)

Program 5.

A program for training or retraining of unemployed persons to improve employment opportunities and increase trade or occupational competence.

The Federal Government will contribute 75% of approved provincial costs for the full fiscal year if the number of student training days in that fiscal year exceeds 7% of the adult population as at June, 1959. i.e. 56,900 student training days. If this minimum number of student training days is not exceeded in any fiscal year the federal contributions will be 50% of provincial costs. Training shall be carried on in accordance with regulations in Schedule 5.

(6) PROGRAM FOR THE TRAINING OF THE DISABLED - (R)

Program 6.

A program for the technical vocational training, retraining, or vocational assessment, of any disabled person who, because of a continuing disability, requires training to fit him for employment in a suitable occupation.

The Federal Government will contribute 50% of provincial costs of approved programs in accordance with regulations in Schedule 6.

(7) PROGRAM FOR THE TRAINING OF TECHNICAL AND VOCATIONAL TEACHERS - (T.T.) Program 7.

A program to provide training for occupationally competent persons in the art or science of teaching, supervising, or in the administration of technical or vocational training programs at all levels whether in industry, in vocational schools or in institutes.

The Federal Government will contribute 50% of provincial costs of approved programs in accordance with regulations in Schedule 7.

(8) TRAINING PROGRAM FOR FEDERAL DEPARTMENTS AND AGENCIES - (G) Program 8.

- (a) For training provided by the Province in skilled, semi-skilled or other occupations for members of the Armed services, the

Federal Government will contribute 100% of the costs of training.

- (b) For training or training services, as requested by the Minister, for employment in a Federal Government department or agency, or for employment related to the activity carried on by such department or agency, the Federal Government will contribute up to 100% of the costs of training in accordance with regulations in Schedule 8, as may be approved by the Treasury Board of the Federal Government.

(9) STUDENT AID - (S.A.) Program 9.

Assistance to students at university and to nurses-in-training as provided under the Youth Training Act of 1939 and continued under the Vocational Training Co-ordination Act shall be continued with the federal contribution determined on the basis of an allocation approved by the Minister but in no case in excess of 50% of provincial expenditure, in accordance with regulations in Schedule 9.

6. Technical and Vocational Correspondence Courses

To provide instruction in the theory and practice of many occupations the Federal Government will contribute 50% of provincial costs of preparing, revising, printing and servicing of Provincial technical and vocational correspondence courses recommended by an interprovincial committee and approved by the Minister, provided the province receiving assistance makes its vocational correspondence courses available to residents of any other province at the same price charged for such courses to its own residents.

7. Capital Expenditures

- (1) Subject to the terms and conditions of this agreement, the Federal Government will contribute in respect of the capital expenditure incurred by the Province for approved training facilities for all

programs under this Agreement and the Apprenticeship Training Agreement. Capital expenditure incurred by the Province includes grants made by the Province to a municipality for such training facilities and in accordance with the terms of this Agreement.

- (a) On behalf of capital expenditures incurred before April 1, 1963.....75%
- (b) On behalf of capital expenditures incurred after March 31, 1963.....50%
- (c) On behalf of capital expenditures incurred after March 31, 1963 for alteration or repair of premises and purchase of machinery and equipment for training of unemployed persons, provided the minimum number of training days for unemployed persons as specified in Program 5 has been given.....75%

Capital expenditures incurred includes:

- (i) the construction, purchase, addition or alteration of buildings or physical plants, the whole or that part of which under sub-paragraph (a) was completed or put in place before April 1, 1963, or the whole or that part of which under sub-paragraph (b) was completed or put in place before April 1, 1967, and the alteration or repair of buildings or physical plant, the whole or that part thereof which under sub-paragraph (c) was completed or put in place before April 1, 1967.
- (2) The Province shall submit to the Minister for prior approval each capital expenditure upon which it requests federal contribution, in such form as may be prescribed by the Minister.
- (3) Plans of buildings to be erected, purchased or altered shall be forwarded to the Director, Vocational Training Branch, Federal Department of Labour.

(4) The Minister shall have the right, in his discretion, to reject any capital expenditures in whole or part, but he shall have no authority to impose alterations or amendments to any project submitted and approved by the Province.

(5) No part of the Federal Government funds available for capital expenditures under this Agreement may be used for any of the following purposes:

- (a) purchase of land;
- (b) costs of financing capital projects;
- (c) property taxes, fire insurance, permits;
- (d) legal, advisory or consulting fees and salaries, except architects' and engineering fees related to capital projects;
- (e) general shops or facilities used for Industrial Arts classes;
- (f) costs resulting from damage to real or personal property or from loss of personal property.

8. Program Development and Reporting

- (a) To facilitate administration of this Agreement and to provide necessary information to the Federal Government, the Province agrees to submit to the Minister, on or before September 1st, 1961 details concerning their programs in such form as the Minister may require. Revisions or changes in provincial plan and programs shall be reported on or before September 1st in each subsequent year.
- (b) The Province shall send to the Minister reports and statistics on technical and vocational training carried out in connection with this Agreement at such times and in such forms as shall be required by the Minister.

9. Advisory Council

The Federal Government shall provide, by way of the National Technical and Vocational Training Advisory Council, a forum for the discussion of matters pertaining to the development by training of Canada's manpower.

10. National Standards

To assist in the development of comparable levels of training and national standards throughout Canada the Federal Government in co-operation with the provinces and industry, will continue to develop Trade Analyses, Courses of Study, Information Sheets and other such materials.

11. Publicity

The Province agrees to publicize effectively its technical and vocational training programs and opportunities. The Federal Government will contribute in accordance with Appendix 1 to the provincial costs of publicity and will also provide publicity on a national basis.

12. Occupational Information

The Federal Government will continue to prepare and make available occupational information such as monographs, film strips or other materials which will be distributed by the Province throughout the secondary schools and in other training institutions for use by guidance personnel and students.

13. General

Whenever any question arises as to the liability of the Federal Government to contribute to any expenditure certified by the Province as having been incurred pursuant to the terms of this Agreement, the decision of the Minister in respect thereto, after consultation with the Province, shall be final and conclusive.

14. The Province will maintain full records of all expenditures and commitments made as well as all revenues and refunds received in respect of this Agreement, such records to be segregated from although reconciled with the continuing books of accounts of the Province, and will furnish such information and statements as the Minister may require. The Province will permit access at all convenient times to such records, documents and files, directly or indirectly connected with the operation of this Agreement, as may be deemed necessary by authorized officers of the Federal Government for the audit of expenditure under this Agreement.
15. The Federal Government agrees to reimburse the province for expenditures incurred by making payment on monthly interim statements, based on approximate known expenditures, such statements to be certified by a senior official of the province - on the undertaking that at the end of each quarterly period a statement of actual expenditures will be submitted certified by the province and bearing an audit certificate of the provincial auditor. Such statements to be in a form as the Minister may direct.
16. The Minister may, at any time after consultation with the Province, direct any examination in connection with any measures executed or being executed pursuant to this Agreement and the Province will facilitate, as fully as it can, every such examination.

17. The selection of trainees for training under this Agreement shall be made without discrimination against or favour for any persons with respect to racial origin, religious views or political affiliation.
18. The Appendix and the Schedules attached to this Agreement may be amended by written agreement between the Minister and the Province.
19. This Agreement when signed by both parties shall have the effect of cancelling the following Agreements: - The Vocational and Technical Training Agreement No. 2 and the Special Vocational Training Projects Agreement previously entered into by the parties hereto.
20. This Agreement shall be effective on and after April 1, 1961 and shall expire on March 31, 1967. However, except for approved capital expenditures the Agreement may be terminated by either party on six months' notice.

In the Presence of

SIGNED on behalf of the
Government of Canada

Minister of Labour

and

In the Presence of

SIGNED on behalf of the
Government of the Province of
_____ by

REGULATIONS RE SHAREABLE EXPENSES

The Federal Government will reimburse the Province at the percentage rate set out in the Agreement for expenditures as follows:

Re: Salaries

1. Salaries of instructors or teachers actually engaged in the conduct of classes of training, whether employed full-time or part-time, at rates determined by the Province, or in accordance with the rates prevailing in the locality for persons of similar qualifications and experience, except where otherwise approved by the Federal Director of Vocational Training, subject to the condition that shop instructors shall have full trade or occupational competence e.g. journeyman, technician or professional engineer status and background of work experience and professional training.
2. Salaries of principals, guidance officers or supervisors of training programs under this Agreement at rates determined by the Province.
3. Salaries of the Provincial Director as defined in the Agreement and other special officers appointed to develop, administer, co-ordinate and supervise the training programs, if the terms of appointment of such persons have been given prior approval by the Federal Director of Vocational Training. Where the duties of such provincial officers are of a general nature and cannot be identified with a particular program, such provincial costs will be charged to Program 3.
4. Salaries or wages of necessary maintenance staff, clerical and office assistants engaged for the purposes of the training programs under the Agreement, when terms of engagement of such persons have been given prior approval by the Federal Director of Vocational Training.

Re: Travelling Expenses

5. Travelling expenses of:

- (a) The Provincial Director or other special officers while engaged in a supervisory or administrative capacity by the Province under this Agreement, and in respect to whom the Federal Director of Vocational Training has approved this type of expense.
- (b) Instructors and teachers under this Agreement, if approved by the Provincial Director or the Federal Director of Vocational Training.
- (c) All out-of-town members of provincial committees required by the Agreement, while attending committee meetings, or in connection with the work of the committee, at rates provided by prevailing provincial travel regulations.
- (d) Trainees under Programs 3, 4, 5, 6, 7 and 8 while proceeding from their place of residence to a training centre or returning therefrom, one round trip only unless otherwise approved by the Federal Director of Vocational Training (including in each case any necessary stopover expenses en route), (provided that payment for return fare of any trainees voluntarily leaving a training centre or discharged therefrom for misconduct), shall be made at the discretion of the Province. Transportation by air is permissible only:
 - (i) from the Yukon Territory, the Northwest Territories,
 - (ii) for trainees whose disabilities are such to make travel by air the most logical means of transportation.
 - or (iii) from points where travel by air is either less costly or under exceptional circumstances is the more practical or logical means of transportation.

- (e) Trainees under Program 6, for return trips from the place of training to the trainee's home municipality at the close of each term or semester, if the course lasts twelve months or more. Trainees under Program 6 may be paid extra travelling expenses necessitated by disability.
- (f) Trainees under Program 6, involving local daily transportation as approved by the provincial selection committee.
- (g) Selected prospective vocational training students for vocational assessment. Prior approval of the Federal Director of Vocational Training is required when the period of assessment is to exceed three weeks.

Re: Allowances

- 6(a) Such monthly, weekly or daily training allowances as may be paid by the Province under Programs 3, 4, 5, 6 or 8, if approved by the Province and the Minister. For trainees under Programs 5 or 6 who are in receipt of Unemployment Insurance benefit reduced weekly or daily training allowances may be paid equal to the difference between the Unemployment Insurance benefit and the weekly or daily allowances that would otherwise have been payable under this regulations.
- (b) Trainees under Program 6 may be paid extra allowances necessitated by disability, if approved by the Federal Director of Vocational Training.
- (c) Financial assistance provided by the Province for students in full-time programs under Programs 2 and 7, if approved by the Director of Vocational Training.
- (d) Per diem allowances for non government members of provincial advisory committees or boards, authorized under this Agreement, at rates approved by the Minister.

Re: Equipment

- 7(a) Rentals of machinery or equipment from a third party and necessarily used for any training under this Agreement, at rates approved by the Federal Director of Vocational Training.
- (b) Where machinery or equipment needed for training under Program 8 is of such a nature that the Province is not willing to share in the purchase, the cost may be paid solely by the Federal Government, provided:-
- (i) prior approval to purchase has been obtained from the Federal Director of Vocational Training;
 - (ii) equipment so purchased shall be used solely for the training originally intended; and,
 - (iii) all items so purchased shall remain the sole property of the Government of Canada and must be plainly marked as such.
- (c) Maintenance and repairs of any machinery and equipment used for the purposes of this Agreement;
- (d) Shipping and installation charges on machinery and equipment used for any training under this Agreement, may be included as part of the rental or purchase costs of such items as the case may be.

Re: Premises

8. Rentals of premises from third parties, where such premises are needed for training under this Agreement, and where adequate and suitable facilities are not available in provincially or federally-owned premises; all such rentals to be approved by the Federal Director of Vocational Training, on the recommendation of the Provincial Director.

9. Repairs to premises provided any one item of repairs costing over \$500 must be approved by the Federal Director of Vocational Training.
10. Where municipal or provincial school buildings and equipment for the use of which no rental is paid have been used for training under Program 8, payment may be made for the depreciation of such buildings and equipment at a rate or rates approved by the Minister based on the number of days' or hours' training programs operated under this Agreement.

Re: Materials, Supplies, Instructional Aids, etc.

11. Materials, training and office supplies, textbooks, films and expendable tools, curriculum developments, and other instructional aids necessary for the training programs operated under this Agreement.

Re: Fees

12(a) The actual costs of training or tuition fees at rates usually charged by provincially or municipally-controlled or private schools, approved by or operating under provincial authority, or at such rates as may be approved by the Federal Director of Vocational Training.

(b) Fees for vocational assessment provided under Program 6, if recommended by the provincial selection committee and approved by the Federal Director of Vocational Training.

(c) Fees charged by universities or other institutions for training given under Program 7.

Re: Public Utilities

13. Light, heat, power, water, telephone installations and rentals, and necessary caretaking services in any training centre operated for the purposes of this Agreement.

14. Long distance calls and telegrams necessary for training under Program 8.

Re: Advertising and Printing

15. Printing costs of application forms and certificates, if in a form approved by the Federal Director of Vocational Training.
16. Publicity and advertising in respect to training programs and projects, carried on under this Agreement, provided all such publicity and advertising adequately indicates that the program of training is carried on jointly by the Government of Canada and the Province, and such publicity and advertising is approved by the Federal Director of Vocational Training.

* Re: Compensation and First Aid

17. Without admitting liability in respect to any accidents which may occur by reason of the operation of any program or projects authorized under this Agreement, assessments paid under the Workmen's Compensation Acts or premiums of insurance paid to provide adequate coverage in the cases of accidents arising out of training carried on under this Agreement, but not to share in awards made under the Workmen's Compensation Acts or in damages resulting from accidents, in respect to persons providing instruction and persons receiving training under this Agreement, and persons properly upon the premises where any program or project under this Agreement is being conducted.
18. Emergency medical aid, other than hospitalization, supplied to trainees while living in residential schools or while in class training.
19. Maintenance and operation of first-aid facilities in training centres.

General

20. All revenue derived by the Province in respect to the operation of programs or training facilities provided under this Agreement, shall have the effect of reducing the provincial costs to which the Federal Government will contribute, except in Program 8.
21. Costs in respect to matters incidental to and in the same class of matter as the foregoing, if approved in writing by the Minister.
22. When approval by the Minister or the Federal Director of Vocational Training is required under this Appendix, it shall be given in writing.
23. All Records of Approval given by the Minister or the Federal Director of Vocational Training under prior agreements, that are still applicable to training under this Agreement, shall continue in effect after April 1st, 1961, unless specifically cancelled in writing.

SCHEDULE 1

VOCATIONAL HIGH SCHOOL TRAINING PROGRAM (V.H.S.) Program 1

REGULATIONS

1. The programs or courses of the regular secondary schools, including technical, vocational or composite high schools, which shall be eligible for federal contribution under this program are:
 - (a) Full-time courses having a minimum of 50% of school time spent in instruction preparing for an occupation, such instruction to include technical, trade or occupational practice and theory, mathematics, science and drawing.
 - (b) Co-operative training programs in which students spend a minimum of 50% of their time on the job.
2. The Following courses or programs shall not be eligible:
 - (a) Industrial arts or manual training courses;
 - (b) Vocational courses which do not provide training in a single trade or occupation for at least half of the total training period;
 - (c) Courses which cover two or more unrelated occupational fields;
 - (d) Subjects of a technical, vocational or occupational nature which may be chosen as optional subjects in a high school course, e.g., home economics, typing, shopwork;
 - (e) Courses in which instruction is given in several trade and technical subjects such as in a "General Shop", rather than in unit shops;
 - (f) Technical or vocational training in composite high schools having a total enrollment, administration or facilities which would not make it possible to attain the objectives as outlined in the Agreement.
3. The Province shall submit, for the approval by the Federal Director, Vocational Training, a list, in such form as the Minister may require, of the schools and courses which comply with the above regulations.

SCHEDULE 2

TECHNICIAN TRAINING PROGRAM (T) Program 2

REGULATIONS

Eligibility

1. Secondary school completion or graduation (technical, vocational or academic) or equivalent with proficiency in English or French, mathematics and science.
2. Junior matriculation or equivalent.

Training

3. Training may be given in full-time day classes extending for a period of two to three years, or approximately 2,400 hours.
4. Training may also be by part-time day or evening classes or by correspondence courses and should be at an equivalent level and lead to the same qualification as the full-time day course.
5. Training may be given in engineering, scientific, business or other fields requiring advance theoretical and practical training, except where such instruction is designed for university credit.
6. Courses shall emphasize the understanding and application of mathematical, scientific, technological or other principles as the specific course may require.

SCHEDULE 3

TRADE AND OCCUPATIONAL TRAINING PROGRAM (T.O.) Program 3

REGULATIONS

Eligibility

Trainees must:

- (a) be above compulsory school attendance age;
- (b) have left elementary or secondary schools; and
- (c) be capable of benefiting from and coping with the instruction.

Training

1. Instruction may be given in full-time, part-time, day or evening classes, day or block release, or by correspondence courses.
2. Training may be offered by way of:
 - (a) upgrading courses for employed persons who wish to increase their proficiency, to improve opportunities for continued employment and advancement;
 - (b) pre-employment courses for those preparing to enter employment;
 - (c) retraining courses for those who desire or find it expedient to change their occupation.
3. Programs may be offered in publicly operated trade schools or institutes, or special centres provided by the province.
4. Courses may consist of specialized portions of an occupation offered in short courses of five or more days or longer courses up to two years in duration, covering the complete analysis of an occupation. Basic courses in mathematics, science or communication skills

necessary to prepare for or to progress in an occupation may be included.

5. Training provided shall have an occupational objective with emphasis on the development or improving of skills and techniques, including the related occupational and technical knowledge.
6. In provinces where the Apprenticeship Training Agreement is in effect, "training" programs for apprentices indentured and registered under terms of provincial apprenticeship legislation will be carried on under the Apprenticeship Training Agreement and not under this program.

SCHEDULE 4

TRAINING PROGRAM IN CO-OPERATION WITH INDUSTRY
PROGRAM (T.I.) Program 4

REGULATIONS

1. Projects undertaken under this Schedule shall be developed jointly between the Province and one or more employers or industries in the area.
2. Any person employed in the industry involved who is jointly selected by the industry and the Province and who can benefit from and cope with the training provided, shall be eligible.
3. Training may include:
 - (a) Supervisory training for those in supervisory positions or those showing the necessary aptitude, and ability to make use of such training.
 - (b) Upgrading to increase the efficiency and versatility of employees and to provide them with the opportunity to develop and make progress in their occupations.
4. Training may be in a specialized process or skill related to the regular function of the employee, but courses shall include content designed to improve the occupational background and general efficiency of the employee in relation to the requirements and opportunities of the industry in which he is engaged.
5. Training may be provided in public or approved private schools or in industrial establishments by means of full-time, part-time day or evening, day release, sandwich, or on-the-job type of programs, or by correspondence courses.

6. Each project carried on under this Program shall be approved by the Federal Director of Vocational Training. In making submissions for approval the Province will provide the following information:
 - (a) Purpose or objective of the project.
 - (b) Name and location of industry or industries co-operating with the province.
 - (c) Approximate number of employees involved.
 - (d) Outline of the content of the training project.
 - (e) Where the training is to be given.
 - (f) Financial arrangements involved.
7. Any training considered eligible for 75% contribution must receive special approval of the Federal Director of Vocational Training.
8. In provinces where the Apprenticeship Training Agreement is in effect training programs for apprentices, indentured and registered under the terms of provincial apprenticeship legislation will be carried on under the Apprenticeship Training Agreement and not under this program.

SCHEDULE 5

TRAINING FOR THE UNEMPLOYED PROGRAM (M) Program 5

REGULATIONS

Eligibility

1. Those eligible shall be unemployed persons, male or female, over sixteen years of age, whose opportunities for gainful employment, in the opinion of those responsible for the selection of trainees, would be definitely improved by the course of training prescribed, or whose degree of trade skill would be increased.
2. Applicants must be registered for employment with the National Employment Service but need not have been previously gainfully employed, and may include persons who wish to fit themselves for a more skilled occupation if, in the opinion of those responsible for selection of trainees, the training to be given is deemed suitable for such persons.

Selection

3. The selection of trainees to follow any course shall be made by representatives of the Province and National Employment Service, having due regard to the recommendations made by such committees as may be established under Regulation 5.
4. Training for apprentices indentured under a Provincial Apprenticeship Act shall be given under the terms of the Apprenticeship Training Agreement, and not under this Program.

Advisory Committee

5. At the discretion of the Province, an advisory committee or committee may be formed representing employers, organized labour,

Federal and Provincial Governments, including the National Employment Service, whose duties shall include advising the Province on:

- (i) The types of persons to be trained;
- (ii) The numbers of such persons, having due regard to overcrowding occupations;
- (iii) The nature and length of the courses of training to be provided, having due regard to employment possibilities.

Training

6. Training may be either of a refresher nature to previous employment or for employment in an occupation not previously followed. Basic courses necessary to prepare an individual for entry into an occupation may be included.

- (a) The normal length of full-time training shall be approximately six months, except for refresher courses and courses in those occupations where a shorter period would give adequate skill; but courses may be given up to a maximum length of twelve months in selected occupations on the recommendation of the Province and with the approval of the Federal Director of Vocational Training.
- (b) Full-time classes shall provide at least 27 hours instruction per week in private schools or regular vocational schools, and approximately 35 hours in special training centres. The hours of instruction may be spread over 5 or 6 days per week, to suit the convenience of the individual school.
- (c) At the discretion of the Province, training may be given in part-time classes approved by the Federal Director of Vocational Training.

7. Training may be given in (a) the regular municipal or provincial vocational schools; (b) private trade schools or business colleges

approved by the Province; (c) special training centres established by the Province. So far as possible, use shall be made of existing facilities where such are deemed adequate by the Province.

8. (a) Where a class is commenced under this Program there must be a minimum of 6 trainees in general attendance to qualify for Federal Government contribution to such a class.
(b) When any class is commenced under this Program, the Province shall immediately notify the Federal Director of Vocational Training, giving the following information:
(1) Location; (2) Trainee capacity (per shift); (3) length of course; (4) outline of syllabus.
9. Trainees under this Program may be admitted to a class or course being conducted under any other program of a federal-provincial training agreement, and in such cases this Program shall be debited with the appropriate costs of their training estimated on a per capita per diem basis or regular tuition fees.
10. Training on-the-job may be provided when training in schools or training centres is not available. When training on-the-job is arranged, each case must be reported to the Federal Director of Vocational Training within thirty days after approval by the selection committee.
 - (a) In all such cases a form of agreement with the employer shall be used setting forth -
 - (i) Nature of the occupation to be learned;
 - (ii) Length of probationary period;
 - (iii) Approximate length of training;
 - (iv) Schedule of wage payments, either (1) with a decreasing percentage paid under this agreement and a corresponding increasing percentage paid by the employer, or (2) a uniform percentage of wage payments over the total training period which will provide a percentage of wage payments not in excess of that paid by the employer.

- (b) No agreement with the employer shall be made for a longer period than twelve months without the approval of the Federal Director of Vocational Training.
- (c) A monthly progress report shall be obtained by the Province in each case.

SCHEDULE 6

TRAINING OF DISABLED PERSONS PROGRAM (R) Program 6

REGULATIONS

Selection

1. (a) All cases for training under this Program shall be approved by a selection committee or committees appointed by the appropriate department of the Provincial Government consisting of at least three members - one of whom shall represent the department concerned, one shall represent the National Employment Service, and the third shall be the Provincial Co-ordinator of Rehabilitation or his duly appointed representative;
- (b) The selection committee shall have suitable medical evidence or opinion regarding the trainee's ability and limitations, to assure that neither the training program nor employment conditions following such training program will be detrimental to the trainee from a medical point of view;
- (c) In all cases where the disability or limitations of the prospective trainee necessitate special provisions such as part-time training, shorter hours, periodic rest periods, or special working conditions, such as freedom from dust, moisture, etc., such special requirements shall be specified by competent medical authority before training is commenced.
- (d) When requested by the selection committee persons who have been recommended for training may be referred to an approved agency or qualified individual for vocational assessment before final decision is made on the particular course of training in which such person will be placed. When the period of assessment is to exceed three weeks prior approval must be obtained from the Federal Director of Vocational Training.

Training

2. (a) Training may be given in full-time or part-time classes for periods not in excess of two years, unless prior approval is given by the Federal Director of Vocational Training for longer periods.
(b) Specialized training techniques may be employed where required because of disability, e.g., individual tutoring, home instruction, correspondence courses, etc.
3. Training may be given in (a) the regular municipal or provincial vocational schools or institutes of technology; (b) private trade schools or business colleges approved by the Province; (c) special training centres established or approved by the Province; (d) universities; (e) in business or in industry, when approved by the Federal Director of Vocational Training. So far as possible, use shall be made of existing facilities where such are deemed adequate by the Province.
4. Where suitable training is not available in such institutions, an endeavour should be made to arrange for training on-the-job. When training on-the-job is arranged, each case must be reported to the Federal Director of Vocational Training within thirty days after approval by the selection committee.
 - (a) A form of agreement with the employer shall be used setting forth:
 - (i) Nature of the occupation to be learned;
 - (ii) Length of the probationary period;
 - (iii) Approximate length of training;
 - (iv) Schedule of wage payments, either with a decreasing percentage paid under such agreement and a corresponding increasing percentage paid by the employer, or a uniform percentage of wage payments over the total training period which will provide a percentage of wage payments not in excess of that paid by the employer.

- (b) No agreement with the employer shall be made for a period longer than 12 months.
 - (c) A monthly progress report shall be obtained by the Province in each case.
5. Where training is to be given in a designated apprenticeship trade, or in an occupation or industrial establishment in which there is a recognized apprenticeship training plan, the disabled trainee shall, if possible, be trained under such apprenticeship plan with special provisions being made where necessary to compensate for disabling conditions.

Special Classes

6. Training classes organized specially for disabled persons may be organized where suitable classes or facilities are not available and where the number of trainees justifies this special provision, if recommended by the Province and approved by the Federal Director of Vocational Training.

SCHEDULE 7

TECHNICAL AND VOCATIONAL TEACHER TRAINING PROGRAM (T.T)

Program 7

REGULATIONS

Eligibility

1. Trainees must have:

- (a) Full occupational competence in the field in which they are to give instruction, and
- (b) Academic standing as required by the province.

Description of the Training

- 2. Courses designed and organized for the training or upgrading of technical and vocational teachers, supervisors and administrators, with emphasis on techniques applicable to instructing or supervising of adults and the administration of technical and vocational training programs.
- 3. Training may include programs designed to keep teachers abreast of changes in occupational content and techniques.
- 4. Instruction may be given in full school year terms or in special short or summer school courses, or it may be organized as formal in-service training.
- 5. Upon approval of the Federal Director of Vocational Training, external tours of service, workshops or institutes of a minimum of five days' duration, attendance at national technical and vocational training conferences in Canada, or observation or study tours for administrators may be included.

6. Preference shall be given to programs which are established on a permanent or continuing basis and are associated with professional teacher training at a university.
7. On the recommendation of the Province and with the approval of the Federal Director of Vocational Training, this training may be given in:
 - (a) Special technical or vocational teacher training institutions;
 - (b) Special courses or programs for training such persons at a university or approved teacher training institution;
 - (c) Approved courses provided by industry;
 - (d) Training sessions organized to meet special situations or needs.

SCHEDULE 8

TRAINING PROGRAMS FOR FEDERAL DEPARTMENTS AND AGENCIES (G)

Program 8

REGULATIONS

1. Full or part-time classes may be established to train tradesmen or workers for occupations as requested by any department of the Federal Government. The commencement of any such classes is contingent upon duration of course and course content shall be as authorized by the Federal Director of Vocational Training after consultation with the Department of the Federal Government requesting the training.
2. Training for classes authorized in accordance with Regulation 1 may be carried on in regular provincial or municipal schools or special training centres, where premises and equipment are or can be made available.
3. Instructors may be engaged for duty in training centres other than in regularly operated provincial schools on prior approval of the Treasury Board of the Federal Government.
4. Training shall be restricted to personnel selected, referred or approved by the departments of the Federal Government requesting the training.
5. The department requesting the training may appoint liaison officers to work with the Provincial Director and the Directors of the training centres of the Province.
6. There shall be no authority for interference by officials of the Federal Government department concerned in the operation of any training centre. Any complaints regarding training shall be made by such appropriate official to the principal of the school concerned, or

to the Provincial Director. If no satisfactory settlement can be made in the matter at issue it may be referred to the Federal Director of Vocational Training.

7. The Principal of a school has authority to dismiss any trainee for serious misconduct, but shall report such dismissals at once to the appropriate official of the department concerned. He shall not dismiss a trainee for slow progress, unsuitability or other reasons, but shall report all such cases to the appropriate official.
8. Where special equipment is required the branch of the services or the Federal Government department concerned will supply the equipment or assist the Province in its procurement.
9. The Province shall not be responsible for medical services, provision of board and lodging, payment of allowances or travelling expenses for members of the Armed Services or Federal Government employees.

APPENDIX B

THIS APPENDIX INCLUDES A SERIES OF TABLES WHOSE DATA SHOW THE HIGH SCHOOL POPULATION FOR STUDENTS AND TEACHERS IN THE CALGARY PUBLIC SCHOOL SYSTEM DURING THE SCHOOL YEARS 1960-61 THROUGH AND INCLUDING 1969-70.

The 1962 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 23
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1961-62

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Crescent Heights	X-XII	1346	61.5
Henry Wisewood	X-XI	556	24
Queen Elizabeth	VII-XII	1127	49
Viscount Bennett	VII-XII	1472	63.5
Western Canada	X-XII	1654	72
William Aberhart	X-XII	974	41.5
TOTAL		7129	311.5
(Calgary Public School Board Annual Report 1962)			

The 1963 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 24
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1962-63

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Central High	X-XII	503	22
Crescent Heights	X-XII	1534	65
Forest Lawn	VII-XII	596	26.5
Henry Wisewood	X-XII	1038	44
Queen Elizabeth	VII-XII	1134	48
Viscount Bennett	VII-XII	1750	74
Western Canada	X-XII	1681	74
William Aberhart	X-XII	1280	54
TOTAL		9561	407.5

(Calgary Public School Board Annual Report 1963)

The 1964 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 25
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1963-64

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Central High School	X-XII	451	21
Crescent Heights	X-XII	1563	68
Ernest Manning	X	501	24
*Jr. Acad-Voc	VII	84	4.5
Forest Lawn Jr.-Sr.	VII-XII	629	29
Henry Wisewood	X-XII	1283	56
James Fowler	X	385	22
*Jr. Acad-Voc	VII	91	4.5
Montgomery Jr.-Sr.	VII-XII	515	22
Queen Elizabeth Jr.-Sr.	VII-XII	1214	50
Viscount Bennett Jr.-Sr.	VII-XII	1913	81
Western Canada	X-XII	1546	70
William Aberhart	X-XII	1255	54
TOTAL		11430	506

(Calgary Public School Board Annual Report, 1964)

* The junior Academic-Vocational students were accommodated at Ernest Manning and James Fowler Senior High Schools until facilities for the J.A.V. Program were constructed.

The 1965 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 26
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1964-65

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Bowness Jr.-Sr.	VII-XII	999	53
*Central			
Crescent Heights	X-XII	1275	61
Ernest Manning	X-XII	1263	66
Forest Lawn	X-XII	514	27
Henry Wisewood	X-XII	1599	75
James Fowler	X-XII	1122	56
Montgomery	VII-XII	424	21.5
Queen Elizabeth	VII-XII	1154	52.5
Viscount Bennett	VII-XII	1972	89
Western Canada	X-XII	1494	72
William Aberhart	X-XII	1277	58
TOTAL		13093	631

(Calgary Public School Board Annual Report, 1965)

*Central High School was phased out and closed as a school in September 1965. Graduation exercises were held for the last time in June 1965.

The 1966 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 27
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1965-66

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Bowness	VII-XII	1158	51.6
Crescent Heights	X-XII	1297	62
Ernest Manning	X-XII	1395	72
Forest Lawn	X-XII	435	72
Henry Wisewood	X-XII	1658	75
James Fowler	X-XII	1279	67
Queen Elizabeth	VII-XII	1087	50
Viscount Bennett	VII-XII	2066	94.5
Western Canada	X-XII	1468	73.5
William Aberhart	X-XII	1293	64
VanHorne Secondary/Voc	VII-IX	415	31.6
TOTAL		13551	713.2

(Calgary Public School Board Annual Report, 1966)

Note: Montgomery High School section - closed. Students were transferred to Bowness High School. New additions to Crescent Heights, Lord Beaverbrook and Western Canada High Schools were not completed. Students intended for Lord Beaverbrook were temporarily housed at R. T. Alderman Junior High School.

The 1967 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 28
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1966-67

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Bowness	IX-XII	791	43
Crescent Heights	X-XII	1311	70.5
Ernest Manning	X-XII	1511	78
Forest Lawn	X-XII	508	26
Henry Wisewood	X-XII	1576	77
James Fowler	X-XII	1468	77
Lord Beaverbrook	X-XII	956	48
Queen Elizabeth	VII-XII	1086	54.5
Viscount Bennett	VII-XII	1902	92
Western Canada	X-XII	1410	74
William Aberhart	X-XII	1322	65
Shaughnessy - Sec.	VII-IX	380	31
Van Horne - Sec	VII-IX	451	33
TOTAL		14672	769

(Calgary Public School Board Annual Report, 1967)

The 1968 annual report of the Calgary Public School Board indicated high school to be as follows:

TABLE 29
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1967-68

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Bowness	IX-XII	894	46
Central Memorial ¹	X-XI	659	36
Crescent Heights	X-XII	1466	73.5
Ernest Manning	X-XII	1571	80
Forest Lawn	X-XII	594	31
Henry Wisewood	X-XII	1579	77
James Fowler	X-XII	1604	82
Lord Beaverbrook	X-XII	1187	63
Queen Elizabeth	VII-XII	1126	56
Sir Winston Churchill ²	X	141	8
Viscount Bennett	VII-XII	1733	85
Western Canada	X-XII	1422	73.5
William Aberhart	X-XII	1232	66
TOTAL		15208	777

(Calgary Public School Board Annual Report, 1968)

- 1 Central Memorial opened in September 1968 with Grades X and XI
- 2 Sir Winston Churchill began classes in Simon Fraser Junior High with Grade X only.

The 1969 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 30
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1968-69

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Bowness	IX-XII	1044	56
Central Memorial	X-XII	1104	55.5
Crescent Heights	X-XII	1463	79
Ernest Manning	X-XII	1540	81
Forest Lawn	X-XII	710	36.5
Henry Wisewood	X-XII	1701	78
James Fowler	X-XII	1630	83
Lord Beaverbrook	X-XII	1512	77
Queen Elizabeth	VII-XII	1068	54
Sir Winston Churchill	X-XI	426	23
Viscount Bennett	VII-XII	1522	78
Western Canada	X-XII	1478	72
William Aberhart	X-XII	1103	58
TOTAL		16401	831

(Calgary Public School Board Annual Report, 1969)

The 1970 annual report of the Calgary Public School Board indicated high school population to be as follows:

TABLE 31
HIGH SCHOOL POPULATION CALGARY PUBLIC SCHOOL BOARD
1969-70

HIGH SCHOOL	GRADES	POPULATION	
		STUDENT	TEACHER
Bowness	IX-XII	1138	56
Central Memorial	X-XII	1308	63
Crescent Heights	X-XII	1468	80
Ernest Manning	X-XII	1470	79.5
Forest Lawn	X-XII	883	43
Henry Wisewood	X-XII	1711	80
James Fowler	X-XII	1672	83
Lord Beaverbrook	X-XII	1784	95
Queen Elizabeth	VII-XII	1111	54
Sir Winston Churchill	X-XII	840	42
Viscount Bennett	VII-XII	1430	73
Western Canada	X-XII	1516	73
William Aberhart	X-XII	1050	53
TOTAL		17081	874.5

(Calgary Public School Board Annual Report, 1979)

APPENDIX C

IN THIS APPENDIX CAN BE FOUND VERBATIM COPIES OF TABLES, CORRESPONDENCE AND LETTERS RELEVANT TO THE RESEARCH. THESE ITEMS ARE PROVIDED FOR THE BENEFIT OF THE READER WHO MIGHT WISH TO REVIEW SOME PARTICULAR ASPECT OF THE RESEARCH IN GREATER DEPTH.

MATRIX FOR INDUSTRIAL EDUCATION

The "Matrix for Industrial Education" is based on the career groupings used in the Canadian Classification and Dictionary of Occupations. Some minor modifications were necessary to accommodate provincial conditions.

The design incorporates a program of studies that allows a student to select courses over a broad range of technologies or conversely, narrow his choice to a specific field and study it in depth.

1. Definitions

Industrial Education - A continuum of experiences starting with industrial arts at the junior high school and expanding to the development of skills related to career fields through courses in industrial arts and vocational education, and finally culminating in on-the-job work experience or entry into a post-high school institution.

Career Field - This represents a family of occupations or career cluster. Courses in a career field have must in common as to the types of activities and processes involved in the occupations they represent.

Pre-requisite - Courses in either industrial arts or general technology that prepare students to a common level of competence for entry into vocational majors and minors.

Major - A major represents course areas which develop the field. A major is any vocational education course in a career field taken for five or more credits.

Minors - The minors are courses that supplement the majors and are selected from within the category designated as majors. A minor is any vocational course in a career field taken for five or more credits.

Related - The related courses are related in character of function to supplement and provide greater scope in rounding out a student's program in industrial education. They include such courses as work experience, industrial arts, and business education.

Grants Vocational grants will be paid for students taking courses in the vocational education majors and minors. These courses must be taught by a qualified tradesman in a facility that has been approved by the Department of Education for teaching vocational education courses.

TABLE 3

VOCATIONAL SCHOOLS, TEACHERS AND PUPILS IN CANADA

1919 - 1927

SCHOOL YEAR	NUMBER OF MUNICIPALITIES		NUMBER OF TEACHERS		NUMBER OF PUPILS		
	DAY	EVENING	DAY	EVENING	TOTAL	DAY	TOTAL
1919-1920	30	97	384	1423	3	8512	6054
1920-1921	45	149	573	1605	4	11683	56744
1921-1922	54	167	527	1711	30	13583	61961
1922-1923	54	156	752	1883	39	16242	70300
1923-1924	58	156	929	1970	44	20527	77829
1924-1925	65	156	1057	2273	28	24137	80024
1925-1926	72	166	1361	2090	27	29010	80961
1926-1927	78	170	1515	2129	22	34703	96682

CORR. - Correspondence Courses
(Heenan, 1928, p.4)

TABLE 4
MONEY AVAILABLE AND MONEY PAID TO THE PROVINCES UNDER
THE TECHNICAL EDUCATION ACT FOR THE:
FISCAL YEAR ENDED 31 MARCH 1927

PROVINCE	ANNUAL APPROPRIATION	TOTAL AMOUNT AVAILABLE	AMOUNT PAID TO THE PROVINCE
BRITISH COLUMBIA	70,374.35	100,673.97	56,627.03
ALBERTA	77,725.40	177,660.16	85,787.16
SASKATCHEWAN	97,165.78	273,933.28	19,021.83
MANITOBA	80,218.72	233,875.34	20,056.34
ONTARIO	347,636.30	347,636.30	347,636.30
QUEBEC	281,751.31	524,404.67	403,944.35
NEW BRUNSWICK	54,640.80	113,348.02	76,208.59
NOVA SCOTIA	70,288.60	221,973.27	31,494.87
PRINCE EDWARD ISLAND	20,198.74	68,069.14	7,757.33
TOTALS	1,100,000.00	1,099,475.15	1,047,535.80

(Ikenan, 1920, p.5)

It is perhaps interesting to note that of all the provinces involved in the funding from the Technical Training Act, only Ontario had taken full advantage of monies available.

INTER-DEPARTMENTAL



CORRESPONDENCE

TO Dr. L. Keim
Dr. A. Meyers
Dr. C. H. Preitz

FROM Dean H. T. Coutts

DATE May 5, 1970

I was most disturbed by the change in intent made between the pencilled statement which I made as a suggestion for inclusion in your letter to Mr. Harder and the actual statement which appeared. I should have regarded it presumptuous on my part to suggest to Mr. Harder more than a caution with respect to the proposition in his position paper. Because industrial education is not my field of competence, I should never have said that I regarded his proposal as reactionary and retrogressive. What I did say was that I was concerned lest the proposal might be reactionary. This is quite a different matter from what you reported to him that I had said.

Yours sincerely,

H. T. Coutts, Dean
FACULTY OF EDUCATION

HTC/db

May 5, 1970

Mr. J. D. Harder
High School Inspector
Vocational and Industrial Education
Administration Building
10620 - 96 Avenue
Edmonton, Alberta

Dear Jake:

I have just read the covering letter sent to you in which it was stated that in conversation with Dean Coutts, it was concluded that his concern, as well as that of the staff who responded, was that the proposed industrial education approach represents a reactionary and retrogressive step.

In defence of my position, I wish to state that what I said and what I recommended that the Committee say as my reaction to the position paper is that "It was my concern lest the proposed industrial education approach might represent a reactionary step."

Yours sincerely,

Herbert T. Coutts

H. T. Coutts, Dean
FACULTY OF EDUCATION

HTC/db

c.c. Dr. L. Keim
Dr. A. Meyers
Dr. C. H. Preltz ✓



GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF EDUCATION

REFER TO FILE NO.

ADMINISTRATION BUILDING
10820 - 98 AVENUE
EDMONTON 6, ALBERTA
AREA CODE 403
TELEPHONE: 229-3533

May 7, 1970

Dear Dr. Preitz:

Let me thank you first for your insightful analysis of the "Rationale" designed as a working paper to encourage discussion.

While I was disappointed in the negative tone of your reaction and covering letter, I must admit that there were numerous subjective observations made and that words were not always defined precisely. Although, in my own defence, I thought the page used to define industrial education from my point of view was pretty good.

Let me point out, too, that the paper wasn't intended as a pat on our own backs, but was a personal view of the situation and what should be done about it. My appraisal and directions for action seem to have considerable support in the community including the people at the grass-roots level, as well as my colleagues and supervisors in the Department. I should tell you, too, that while many of the observations may appear subjective, they are in fact based on a direct observation of individual schools (about thirty of them), discussions with teachers, administrators, students and parents, access to considerable factual material relating to enrolments, costs and reports.

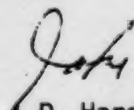
In answer to one of the questions raised by you concerning teacher education, I say that a change in the provincial program should certainly reflect in teacher preparation programs.

.... 2

- 2 -

In view of what I have said and the need to elaborate, explain, define and get your ideas on how we can cooperate, I would be pleased to meet with you and your colleagues some evening and discuss these matters.

Yours sincerely,



J.D. Harder,
High School Inspector of
Industrial Education.

Dr. C.H. Pretz,
Associate Professor,
Faculty of Education,
University of Alberta,
EDMONTON, Alberta

cc: Dr. T.H. Coutts

SELECTED BIBLIOGRAPHY

BOOKS

- Alexander, W. M. The changing secondary school curriculum. New York: Holt, Rinehart and Winston, 1967.
- Bailey, Larry J. and Standt, Ronald W. Career education. Bloomington, Illinois: McKnight Publishing Co., 1973.
- Baird, Ronald J. Contemporary industrial teaching; solving everyday problems. South Holland, Illinois: Goodheart-Woolcox Co. Inc.
- Brown, Wilfred J. The impact of federal financial support on elementary and secondary education in Canada. Ottawa, Ontario: Canadian Teachers Federation, 1974.
- Burt, Samuel M. Industry and vocational technical education. New York: McGraw-Hill Book Co., 1967.
- Canadian Teachers Federation. A summary of federal direct and indirect involvement in Canadian education. C-73203, Ottawa, Ontario: Canadian Teachers Federation 1973.
- Chalmers, J. W. Schools of the foothills province. Toronto: University Toronto Press, 1967.
- Chalmers, J. W. Teachers of the foothills province. Toronto: University Toronto Press, 1968.
- Fluxgold, H. Federal financial support for secondary education and its effect on Ontario 1900-1972. Ottawa, Ontario: Canadian Teachers Federation, 1972.
- Giachino and Gallington. Course construction in industrial arts, vocational and technical education. Fourth Edition Chicago: American Technical Society, 1977.
- Glendenning, D. A review of federal legislation relating to technical and vocational education in Canada. Programs Branch. Ottawa: Department of Manpower and Immigration, 1968.
- Hodgson, E. D. Federal intervention in public education. Toronto: The Canadian Education Association, 1976.
- Keller, Franklin, J. The comprehensive high school. New York: Harper & Bros., 1955.
- Mouly, George L. The science of educational research. New York: Van Nostrand Reinhold Co., 1970.

- Munroe, D. The organization and administration of education in Canada. Ottawa: Secretary of State Department. Reg. 41411-3-1582, 1974.
- Rhodes, James A. Vocational education and guidance; A system for the seventies. Columbus, Ohio: Charles E. Merriell Publishing Co., 1970.
- Roberts, Roy W. Vocational and practical arts education. New York: Harper and Row Publishers, 1965.
- Silvius, G. Harold, and Ralph C. Bohn. Organizing course materials in industrial education. Bloomington, Illinois: McKnight and McKnight 1961.
- Silvius, G. Harold, and Estell H. Curry. Managing multiple activities in industrial education. Bloomington, Illinois: McKnight and McKnight 1956.
- University of Alberta. Curriculum policy making in Alberta education. Edmonton: Faculty of Education. University of Alberta, 1978.
- Worth, Walter H. Choice of futures; Report of the commission on education planning in Alberta. Edmonton: L. S. Wall Queen's Printer for Alberta, 1972.
- Young, D. R. & Machinski, A. V. An historical survey of vocational education in Canada. Ottawa: Algonquin College Technical Centre, 1972.

MONOGRAPH

- Bushnell, D. S. Preface to Cunningham J. W. "Ed". The job cluster concept and it's curricular implications: a symposium. Centre monograph No. 4 Caroline State University Raleigh, 1969.

FEDERAL GOVERNMENT PUBLICATIONS

- Bill C49, 1960.
- Department of Labour - Annual Report, 1946.
- Government of Canada, House of Commons Debates 1960-61 Vol. 1.
- Royal Commission on Canadian Economic prospects - 1957.
- Revised Statutes of Canada - Queen's Printer - Ottawa - 1970.
- Statutes of Canada - Kings Printer - Ottawa - 1919.
- Statutes of Canada - Kings Printer - Ottawa - 1920-1930.
- Statutes of Canada - Kings Printer - Ottawa - 1939.

University of Alberta Calendar - 1945-46. University of Alberta - Edmonton, Alberta.
 University of Alberta Calendar - 1946-47. University of Alberta - Edmonton, Alberta.
 University of Alberta Calendar - 1962-63. University of Alberta - Edmonton, Alberta.
 University of Alberta Calendar - 1963-64. University of Alberta - Edmonton, Alberta.
 University of Alberta Calendar - 1981-82. University of Alberta - Edmonton, Alberta.

PERIODICALS, PAMPHLETS

Alberta Home and School News, Calgary, 1962.

Annual Report, Northwest Territories. Department of Education. Regina, 1903.

Calgary Board of Education. From slate pencil to instant ink: Calgary's public, separate and private schools, Calgary, 1975.

Calgary School District No. 19. Pamphlet 1885-1935.

Canada Handbook 1978. Supply and Services Canada, Ottawa, 1978.

Harder, J. D. What's wrong with industrial education: Alberta School Trustee XLII, March, 1972.

Memorandum, Department of Education, August 1961.

Minutes of 34th meeting - Senior High School, Curriculum committee, 1961
 Pullyblank, R. W. Task Force on High School Education Calgary Public School Board. June, 1973.

Robertson, James W. The Macdonald manual training schools. Canadian Magazine. Volume XVI, 1901, pp.528-530.

Shilt, Bernard, A. "The changing image of vocational technical education. American vocational journal. February, 1970.

Stapleton, A. G. Does vocational education meet the hiring criteria for employers? Canadian Vocational Journal VII, 2 September, 1971.

Ziel, Henry R. Industrial arts and vocational education in a changing society. A.T.A. Magazine. Vol. 43 No. 1, September 1962.

Ziel, Henry, R. Canadians are fortunate in having "lead time". Industrial and vocational education council bulletin. Edmonton, November 1965.

ANNUAL REPORTS

- Calgary Public School Board Annual Report - 1961. Calgary Public School Board, Calgary, Alberta 1961.
- Calgary Public School Board Annual Report - 1962. Calgary Public School Board, Calgary, Alberta 1962.
- Calgary Public School Board Annual Report - 1963. Calgary Public School Board, Calgary, Alberta 1963.
- Calgary Public School Board Annual Report - 1964. Calgary Public School Board, Calgary, Alberta 1964.
- Calgary Public School Board Annual Report - 1965. Calgary Public School Board, Calgary, Alberta 1965.
- Calgary Public School Board Annual Report - 1966. Calgary Public School Board, Calgary, Alberta 1966.
- Calgary Public School Board Annual Report - 1967. Calgary Public School Board, Calgary, Alberta 1967.
- Calgary Public School Board Annual Report - 1968. Calgary Public School Board, Calgary, Alberta 1968.
- Calgary Public School Board Annual Report - 1969. Calgary Public School Board, Calgary, Alberta 1969.
- Calgary Public School Board Annual Report - 1970. Calgary Public School Board, Calgary, Alberta 1970.
- Calgary Public School Board Annual Report - 1971. Calgary Public School Board, Calgary, Alberta 1971.

Calgary Public School Board Progress Report, 1969.

Department of Labour Annual Report - 1946.

UNPUBLISHED THESES

- Bryce, R. C. The technical and vocational training assistance act of 1961-1967. An historical survey and documentary analysis. Doctoral dissertation. University of Alberta, 1970.
- Daniels, L. A. The history of education in Calgary. Unpublished masters thesis. University of Washington, 1954.
- Grywalski, Stan. A history of technical-vocational education in the secondary schools of Alberta 1900-1969. Unpublished masters thesis. University of Oregon, Eugene, 1972.
- Harder, J. D. The development of the industrial arts program and its present status in the province of Alberta. Unpublished masters thesis. Oregon State University. Corvallis, 1964.
- Shields, R. A description of vocational teacher preparation at the University of Alberta 1962-1969. Unpublished masters thesis. University of Alberta, 1970.
- Simon, Frank. History of the Alberta institute of technology and art. Unpublished masters thesis. University of Calgary, 1962.

- Smith, John C. The development of industrial arts multiple activity in Alberta. Unpublished masters thesis. University of Alberta, 1973.
- Thompson, W. D. The effect of participation in a vocational cluster on vocational maturity. Unpublished masters thesis. University of Alberta. Edmonton, 1975.
- Torstensen, Donald I. The perceived values and future role of vocational education in Calgary public high schools. Unpublished masters thesis University of Calgary, 1973.

ARTICLE

- Bottenbury, R. A. & Christal, R. E. "An iterative technique for clustering criteria which retains optimum predictive efficiency". Personnel laboratory. Wright Air Development Division Air Research and Development Command. U. S. Airforce, Lackland Air Force Base, Texas, 1961.
- Christal, R. E. "Implications of air force occupational research for curriculum design". Personnel Research Division Lackland Air Force Base, Texas "undated".
- Maley, D. "The cluster concept: chance for occupational exploration". American vocational Journal, 1967 42 (7) p.22-23.
- Wolansky, W. D. "Oregon musters a statewide commitment to clusters". School Shop, 1970 29, 3335.

ALBERTA GOVERNMENT PUBLICATIONS

- Cunningham, R. H. High school vocational inspectors' report - 1955. Vocational Education Newsletter. Edmonton, 1965.
- Cunningham, R. H. Statistical Information pertaining to senior high schools offering vocational programs. Department of Education, Edmonton, 1976.
- Cunningham and Chalmers. Report on vocational education. Department of Education, Edmonton, 1963.
- Curriculum Guide for Alberta Secondary Schools, 1950.
- Department of Education. The Fortieth Annual Report 1944-45. Edmonton, The Department, 1945.
- Department of Education. The Forty-Sixth Annual Report 1950-51. Edmonton, The Department, 1951.
- Department of Education. The Forty-Eighth Annual Report 1952-53. Edmonton, The Department, 1953.
- Department of Education. The Fiftieth Annual Report 1954-55. Edmonton, The Department, 1955.
- Department of Education. The Fifty-Seventh Annual Report 1961-62. Edmonton, The Department, 1962.

Handbook in industrial education for guidance to teachers, counsellors and administrators. Alberta Education, Edmonton, 1972.

Handbook in industrial education for guidance to teachers, counsellors and administrators. Alberta Education, Edmonton, 1974.

Handbook in industrial education for guidance to teachers, counsellors, and administrators. Alberta Education, Edmonton, 1976.

Handbook in industrial education for guidance to teachers, counsellors, and administrators. Alberta Education, Edmonton, 1979.

Harder, J. D. Alberta education and diploma requirements. Alberta Education, 1977.

Harder, J. D. Decisions for a decade - no date.

Integrated practical activities for elementary grades (1980). Alberta Education. Edmonton, 1980.

How basic education is supported by the government of Alberta department of education. Edmonton, 1980.

Junior and senior high school handbook 1972-73. Alberta Education, Edmonton, 1972.

Junior and senior high school handbook 1982-83. Alberta Education, Edmonton, 1982.

Junior high school industrial education curriculum guide. Alberta Education 1982.

Vocational education. Department of Education Pamphlet, 1961.

ACTS

An Act Respecting Public and Separate Schools, 1970.

The School Act. Government of the province of Alberta, 1970.

The School Act. Revised. Government of the province of Alberta, 1980.

UNPUBLISHED MATERIALS

Beattie, K. N. Occupational survey of high school technical-vocational graduates - 1972. Report to the Calgary school board, 1972.

Ford, C. R. Address to industrial arts and vocational education council. Edmonton, Alberta, 23 April, 1965.

Harder, Dr. J. D. A proposal for industrial education. Department of Education. Edmonton, 1971.

Karpoff, J. T. The context of vocational education in the Alberta high school. Edmonton, 1966.

Kiem, Dr. L. Reaction Paper to the "Rationale", 1970.

Robertson, James W. The Macdonald manual training schools. Canadian magazine, Volume XVI, 1901, pp.528-530.

Vocational living skills report. Calgary Board of Education. Calgary, 1979.

NEWSLETTERS

Curriculum Newsletter, Department of Education, Edmonton, August, 1963.

Curriculum Newsletter, Department of Education, Edmonton, September, 1963.

Curricular Newsletter #61, Department of Education, Edmonton, 1971.

Industrial Arts and Vocational Education Specialist Council. Iavec Newsletter April, 1966. Edmonton, the Council, 1966.

Department of Education. Industrial Arts Newsletter. Edmonton, The Department Vol. VII, No. 1. September, 1969.

Department of Education. Industrial Arts Newsletter. Edmonton, The Department Vol. VII, No. 2. October, 1969.

Department of Education. Industrial Arts Newsletter. Edmonton, The Department Vol. VII, No. 3. January, 1970.

Department of Education. Industrial Arts Newsletter. Edmonton, The Department Vol. VII, No. 4. March, 1970.

Industrial Education Specialist Council. Industrial Education Newsletter, March, 1970. Edmonton. The Council, 1970.

Industrial Education Specialist Council. Industrial Education Newsletter, June, 1970. Edmonton. The Council, 1970.

Industrial Education Specialist Council. Industrial Education Newsletter, September, 1970. Edmonton. The Council, 1970.

Industrial Education Specialist Council. Industrial Education Newsletter, December, 1970. Edmonton. The Council, 1970.

Industrial Education Specialist Council. Industrial Education Newsletter, April, 1971. Edmonton. The Council, 1971.

Industrial Education Specialist Council. Industrial Education Newsletter, June, 1971. Edmonton. The Council, 1971.

Industrial Education Specialist Council. Industrial Education Newsletter, December, 1971. Edmonton. The Council, 1971.

Industrial Education Specialist Council. Industrial Education Newsletter, June, 1972. Edmonton. The Council, 1972.

Industrial Education Specialist Council. Industrial Education Newsletter, June, 1973. Edmonton. The Council, 1973.

Industrial Education Specialist Council. Industrial Education Newsletter, September, 1974. Edmonton. The Council, 1974.

Industrial Education Specialist Council. Industrial Education Newsletter, December, 1980. Edmonton. The Council, 1980.

Industrial Education Specialist Council. Industrial Education Newsletter, September, 1981. Edmonton. The Council, 1981.

Industrial Education Specialist Council. Industrial Education Newsletter,
March, 1982. Edmonton. The Council, 1982.

The Albertan - Calgary, Alberta, 16 October, 1913.
The Albertan - Calgary, Alberta, 10 May, 1916.
The Albertan - Calgary, Alberta, 15 April, 1961.
The Albertan - Calgary, Alberta, 22 January, 1980.

The Calgary Herald - Calgary, Alberta, 13 October, 1913.
The Calgary Herald - Calgary, Alberta, 17 December, 1913.
The Calgary Herald - Calgary, Alberta, 20 May, 1927.
The Calgary Herald - Calgary, Alberta, 21 February, 1929.
The Calgary Herald - Calgary, Alberta, 10 December, 1960.
The Calgary Herald - Calgary, Alberta, 8 April, 1961.
The Calgary Herald - Calgary, Alberta, 13 October, 1961.
The Calgary Herald - Calgary, Alberta, 17 November, 1961.
The Calgary Herald - Calgary, Alberta, 31 May, 1962.
The Calgary Herald - Calgary, Alberta, 15 February, 1963.
The Calgary Herald - Calgary, Alberta, 16 April, 1964.
The Calgary Herald - Calgary, Alberta, 2 July, 1964.
The Calgary Herald - Calgary, Alberta, 17 April, 1964.
The Calgary Herald - Calgary, Alberta, 30 September, 1965.
The Calgary Herald - Calgary, Alberta, 26 March, 1971.
The Calgary Herald - Calgary, Alberta, 21 October, 1972.
The Calgary Herald - Calgary, Alberta, 28 March, 1974.

The Red Deer Advocate - Red Deer, Alberta, 12 October, 1977.